

AGENDA
1071st MEETING OF THE BOARD OF TRUSTEES
OF THE ALAMEDA COUNTY MOSQUITO ABATEMENT DISTRICT
AUGUST 14TH, 2019

TIME: 5:00 P.M.
PLACE: Office of the District, 23187 Connecticut Street, Hayward
TRUSTEES: Eric Hentschke, President, City of Newark
Wendi Poulson, Vice-President, City of Alameda
P. Robert Beatty, Secretary, City of Berkeley
Cathy Roache, County-at-Large
Alan Brown, City of Dublin
Betsy Cooley, City of Emeryville
George Young, City of Fremont
Elisa Marquez, City of Hayward
James N. Doggett, City of Livermore
Jan O. Washburn, City of Oakland
Robert Dickinson, City of Piedmont
Kathy Narum, City of Pleasanton
Victor Aguilar, City of San Leandro
Subru Bhat, City of Union City

1. Call to order.
2. Roll call.
3. President Hentschke invites any member of the public to speak at this time on any issue relevant to the District. (Each individual is limited to three minutes).
4. Approval of the minutes of the 1070th meeting held July 10th, 2019 (**Board action required**)
5. Review of bids and awarding of contract for the purchase of two 2020 Chevrolet Colorado 4WD Extended Cab 128" Work Trucks (**Board action required**)
6. Mosquito and vector control district competency (Information only).
 - a. AB 320-Pest control: mosquito abatement
 - b. Opinion: *California faces rising danger of mosquito-borne diseases*, by Assemblymember Bill Quirk published July 24th, 2019 in the East Bay Times
 - c. NACCHO October 2017 Report: *Mosquito Control Capabilities in the U.S.*
 - d. Slides from the General Manager's presentation at the 2019 MVCAC Annual Conference: *Mosquito & Vector Control as Special Districts: Opportunities and Challenges*
7. Financial Reports as of July 31st, 2019 presented by Accounting Associate, Michelle Matthes: (Information only).
 - a. Check Register
 - b. Income Statement
 - c. Investments, reserves, and cash report
 - d. Balance Sheet

8. Presentation of the Monthly Staff Report for August 2019 (Information only).
9. Presentation of the Manager's Report for August 2019 (Information only).
 - a. MVCAC (San Diego: 1/26-1/29) & AMCA (Portland: 3/16-3/20) annual conference registration interest
10. Board President asks for reports on conferences and seminars attended by Trustees.
11. Board President asks for announcements from members of the Board.
12. Board President asks trustees for items to be added to the agenda for the next Board meeting.
13. Adjournment.

RESIDENTS ATTENDING THE MEETING MAY SPEAK ON ANY AGENDA ITEM AT THEIR REQUEST.

Please Note: A copy of this agenda is also available at the District website, www.mosquitoes.org or via email by request. Alternative formats of this agenda can be made available for persons with disabilities. Please contact the district office at (510) 783-7744, via FAX (510) 783-3903 or email at acmad@mosquitoes.org to request an alternative format.

MINUTES

1070th MEETING OF THE BOARD OF TRUSTEES OF THE ALAMEDA COUNTY MOSQUITO ABATEMENT DISTRICT

July 10th, 2019

TIME: 5:00 P.M.
PLACE: Office of the District, 23187 Connecticut Street, Hayward
TRUSTEES: Eric Hentschke, President, City of Newark
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Robert Dickinson, City of Piedmont
Kathy Narum, City of Pleasanton
Victor Aguilar, City of San Leandro
Subru Bhat, City of Union City

1. Board President Hentschke called the regularly scheduled board meeting to order at 5:01 P.M.
2. Trustees Hentschke, Poulson, Roache, Brown, Cooley, Young, Marquez, Doggett, Aguilar and Bhat were present. Trustees Beatty, Washburn and Narum were absent. Trustee Dickinson arrived at 5:06 P.M.
3. Board President Hentschke invited members of the public to speak on any issue relevant to the District. Vector Biologist Jeremy Sette was present to record the minutes.
4. Approval of minutes of the 1069th meeting held June 12th, 2019. Trustee Marquez asked if there could be a correction to item #9, adding the unanimous vote.
Motion: Trustee Aguilar moved to approve the minutes with correction
Second: Trustee Marquez
Vote: motion carries: unanimous.
5. Alameda County Mosquito Abatement District Annexation Plan for Services for the City of Albany.
Discussion:
The General Manager gave a brief history of annexation efforts and fielded the following discussion. Trustee Poulson asked about the approximate population of Albany (20K residents). Trustee Dickinson commented on the history of annexation efforts, asked if the General Manager had consulted with Trustee Washburn concerning annexation effort history and strategies (yes), and asked what the General Manager believes will be the reaction of Alameda County Vector Control Services District (he has communicated intent, but they will

likely object). Trustee Marquez asked who sends the protest ballots to Albany residents (LAFCo). Trustee Bhat asked if the District will have the opportunity to review the ballot language (yes). Trustee Dickinson suggested adding language relating to the proportional amount of revenue that would come from Albany compared to the total revenue of the rest of the county and asked if the District will eventually add the ad valorem tax (not in the current plan, but likely in the future). Trustee Dickinson also asked if the General Manager if he felt it prudent for Board Members to engage with Alameda County management concerning annexation (he is not recommending this strategy). Trustee Marquez asked if the General Manager will speak at the LAFCo hearings (yes) and commended the GM on his efforts and due diligence up to this point concerning annexation. Trustee Cooley asked if there may be issues with adding the ad valorem later (the ad valorem is discussed in section #8 “tax trade” of the resolution) and commented that it may be cleaner to just add the ad valorem initially (it is recommended to delay adding this revenue source until a later time). Trustee Dickinson asked what the General Manager predicted the timeline to add ad valorem revenue (unknown, but perhaps within the next 3-4 years). Trustee Cooley asked how much the ad valorem would collect (a rough estimate is \$10-20K, about 1/3-1/2 of total). Trustee Dickinson commented that he felt that it is prudent to tackle one issue at a time. Trustee Bhat agreed with the assessment. Trustee Marquez commented that some member of the LAFCo Board may be retiring soon, so keep that in consideration.

6. Resolution 1070-1, a resolution requesting local agency formation commission of Alameda County to take proceedings for the annexation of the City of Albany territory to the District.

Motion: Trustee Doggett moved to approve Resolution 1070-1

Second: Trustee Marquez

Vote: motion carries: unanimous

7. Presentation of the Financial Reports as of June 30th, 2019.

Discussion:

The General Manager presented the Financial Reports as of June 30th, 2019 and fielded the following question. Trustee Dickinson suggested staff present and explain the balance sheet to Trustees (yes).

8. Presentation of the Monthly Staff Report for June 2019.

Discussion:

The General Manager presented the Monthly Staff Report for June 2019 and fielded the following discussion questions. The General Manager asked Vector Biologist Jeremy Sette on input concerning operations for this June in relation to previous years (Sette answered that this year had more mosquito sources drying up later due to heavier rain along with consistent requests for service). Trustee Dickinson asked if the General Manager was surprised that there were no findings of West Nile virus (WNV) in Alameda County so far in 2019 (no, not necessarily, and mentioned the possibility that in wet years, WNV tends to be less frequent). Trustee Marquez asked when the Academy of Science event will be (later in July). Trustee Poulson commented that the after-hours events usually occur on Thursday nights. Trustee Marquez suggested filming short videos at events such as the Academy of Science event for use on the District website/social media, commented on the effectiveness of the District theater advertisements, and asked if the District will rotate the ads to different theaters (the District is focusing efforts in areas with higher potential WNV activity).

9. Presentation of the Manager’s Report for June 2019.

Discussion:

The General Manager presented the Manager’s Report for June 2019 and fielded the following discussion. Trustee Marquez asked about the circumstances of the three anniversary hires (Haas-Stapleton, Ferdan and Clausnitzer) around the same time (there was an uncharacteristic

employee turnover that occurred at that time). Trustee Dickinson asked if signing bonuses were available for District hires (no, only performance if written into a contract). Trustee Marquez asked when the special district chapter meeting was (Monday, July 15th at 8:30 in San Ramon).

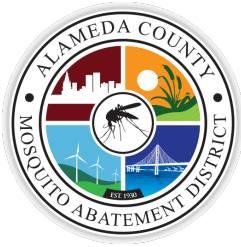
10. Board President Hentschke asked for reports on conferences and seminars attended by Trustees. None. Trustee Poulson asked if the District participated in the Alameda 4th of July Parade this year (no, not this year but the District will be in the Solano Stroll parade in Berkeley & Albany). Trustee Cooley asked when that would be occurring (around the 2nd week of September).
11. Board President Hentschke asked for announcements from the Board. None.
12. Board President Hentschke asked trustees for items to be added to the agenda for the next Board meeting. The General Manager commented that he may add upcoming vehicle purchases to the agenda.
13. The meeting adjourned at 6:02 P.M.

Respectfully submitted,

Approved as written and/or corrected
at the 1071st meeting of the Board of
Trustees held August 14th, 2019

Eric Hentschke, President
BOARD OF TRUSTEES

P. Robert Beatty, Secretary
BOARD OF TRUSTEES



23187 Connecticut Street
Hayward, CA 94545

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acmad@mosquitoes.org

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Kathy Narum

Pleasanton

Victor Aguilar

San Leandro

Subru Bhat

Union City

Ryan Clausnitzer

General Manager

Agenda item: 1071.5

Summary:

Approve expenditure to purchase two 2020 Chevrolet Colorado 4WD Extended Cab 128" Work Trucks to be used by operations staff. The Board approved this purchase in the 2019-20 Repair and Replace reserve budget and this planned purchase is included in the Board-approved 2019 Capital Replacement Plan.

These vehicles will be replacing the following vehicles which will be auctioned off at a later date.

- V40: 2009 Ford Ranger 2WD (102,105 miles)
- V45: 2011 Ford Ranger 2WD (78,606 miles)

Evaluation of two quotes:

Quotes (including specific options, tax, license & fees)

GM, Dublin Auto Group:	\$33,191.33 ea.
TOTAL:	\$66,382.66

F.H. Dailey Chevrolet, San Leandro:	\$31,581.53 ea.
TOTAL:	\$63,16306

Recommendation:

The quote from F.H. Dailey Chevrolet in San Leandro is lower and recommended.

Attachments:

1. Bids from the two auto dealerships



Dublin Auto Group dba Dubiln Chevrolet

Richard Slade | 925-479-3514 | richardms@cacargroup.com

[Fleet] 2020 Chevrolet Colorado (12M53) 4WD Ext Cab 128" Work Truck

Price Summary

PRICE SUMMARY

	MSRP	Invoice
Base Price	\$28,700.00	\$27,609.40
Total Options	\$3,365.00	\$3,062.15
Vehicle Subtotal	\$32,065.00	\$30,671.55
Dealer Advertising Adjustment	\$0.00	\$0.00
Destination Charge	\$1,095.00	\$1,095.00
Grand Total	\$33,160.00	\$31,766.55

Hi Mark,
Including the Mats
Your Price is

9.75% Tax
Lic + Fees

\$ 29666.55

2900.78

624.00

33191.33

X 2

Total Cost

\$ 66382.66

0.*
29,666.55+
2,900.78+
624.00+
33,191.33*

Thank you
[Signature]

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Data Version: 8808. Data Updated: Jul 15, 2019 9:43:00 PM PDT.



Retail Worksheet

Make Primary Send To F&I

Deal

Deal #

Deal Date

Deal Type

Financial Inst.

Program

Deal Status **Stored**

Sales Price

MSRP	0.00
Discount	-28,223.95
Selling Price	28,223.95
Aftermarkets	0.00
Doc Fee	85.00
VSI Premium	0.00
ESC Premium	0.00
Maintenance	0.00
GAP Premium	0.00
LAH/IUI	0.00
Prior Lease Bal	0.00
License Fee	0.00
Dealer Fees	0.00
Total Fees	30.00
Total Taxes	2,618.58
Total Price	30,957.53
Trade Difference	28,223.95

Down Payment

Cash Down	0.00
Deposit	0.00
Total Rebates	0.00
Total Trade Allow	0.00
Total Trade Payoff	0.00
Total Net Trade	0.00
Total Def Down	0.00
Total Down Payment	0.00

Payment

Term	1
Sell Rate	00
AOR	
# Days 1st Payment	
Payments Per Year	12
1st Payment Date	08/06/2019
Prepaid Fin Charge	0.00
APR	
Amount Financed	30,957.53
Finance Charge	0.00
Total of Payments	30,957.53
Total Sales Price	30,957.53

Vehicle

New Used Demo Cert.

Stock #

Year

Make

Model

Style

Odometer

Buyer

Customer #

Last

First

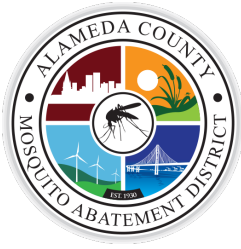
Company

Reg State

County

Fleet order pricing

Payment 30,957.53
 + fees \$624
 \$31,581.53
 1 payment



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Ryan Clausnitzer

General Manager

Agenda item: 1071.6

Memo: Competency of Mosquito & Vector Control Districts

The MVCAC, for the past two legislative cycles, sponsored a bill in the California State Assembly through Assemblymember Quirk, that would place a line item in the state budget to fund a clearinghouse for all mosquito data called CalSurv. Prior to 2008, this database was funded by the UC system, but since the fiscal crisis of that year, those funds have been allocated elsewhere and the database has relied on soft year-to-year funding.

In support of his bill AB320 (*attachment a*), Assemblymember Quirk recently authored an opinion letter in the East Bay Times that argued for the importance of this statewide database (*attachment b*). His argument, shared by ACMAD and the MVCAC, was that mosquito and vector control, and their partners in the California Department of Public Health and in academia, require this tool to make the most informed public health prevention decisions.

The National Association of County and City Health Officials (NACCHO) in 2017 produced a report that surveyed all national mosquito and vector control districts and graded their “competency” (*attachment c*). The five core competencies used in ranking districts included:

- 1) routine mosquito surveillance through standardized trapping and species identification
- 2) treatment decisions using surveillance data
- 3) larviciding, adulticiding, or both
- 4) routine vector control activities (e.g., chemical, biological, source reduction, or environmental management)
- 5) pesticide resistance testing criteria used included

Fortunately, ACMAD is a fully capable vector control program that performs all core, and supplemental, competencies according to the NACCHO report, as reported at the May 2018 ACMAD Regular Board Meeting. The General Manager referenced this report in his presentations at the MVCAC & AMCA annual conferences earlier this year on the relationship between competent control districts and their status as special districts (*attachment d*)

It is crucial in public health prevention to have the data analytical tools needed to make efficient and effective decisions using public funds.

AMENDED IN ASSEMBLY MAY 16, 2019

CALIFORNIA LEGISLATURE—2019–20 REGULAR SESSION

ASSEMBLY BILL

No. 320

Introduced by Assembly Members Quirk and Mathis
(Coauthor: Senator Dodd)

January 30, 2019

An act to add Chapter 2 (commencing with Section 2100) to Division 3 of the Health and Safety Code, relating to pest control.

LEGISLATIVE COUNSEL'S DIGEST

AB 320, as amended, Quirk. Pest control: mosquito abatement.

Existing law, the Mosquito Abatement and Vector Control District Law, provides for the formation of mosquito abatement and vector control districts and specifies the powers and duties of the district boards. Existing law requires the State Department of Public Health to provide examinations to certify government agency employees and vector control technicians.

This bill would create the California Mosquito Surveillance and Research Program, to be administered by the University of California, and would require the University to maintain an interactive internet website for management and dissemination of data on ~~mosquito-borne~~ *mosquitoborne* virus and surveillance control and coordinate with the department, among other ~~functions~~ *functions, to the extent the program receives federal, state, or private funding for those purposes*. The bill would make related findings and declarations.

Vote: majority. Appropriation: no. Fiscal committee: yes.
State-mandated local program: no.

The people of the State of California do enact as follows:

1 SECTION 1. Chapter 2 (commencing with Section 2100) is
 2 added to Division 3 of the Health and Safety Code, to read:

3

4

CHAPTER 2. MOSQUITO ABATEMENT

5

6 2100. The Legislature finds and declares all of the following:

7 (a) Excessive numbers of mosquitoes spread diseases and reduce
 8 livestock productivity.

9 (b) From 1972 to 2008, inclusive, the state provided the
 10 University of California with funding in order to perform research
 11 on mosquitoes and ~~mosquito-borne~~ *mosquitoborne* disease. That
 12 funding was absorbed by the University of California in 2008 and
 13 almost all state-based mosquito research was eliminated.

14 (c) Climate change is a likely influence on ~~vector-borne~~
 15 *vectorborne* disease spread, including both short-term outbreaks
 16 and shifts in long-term disease trends.

17 (d) The State Department of Public Health notes three
 18 ~~vector-borne~~ *vectorborne* diseases that climate change may impact
 19 in the state: hantavirus, Lyme disease, and West Nile virus. As the
 20 ecology of vectors changes with climate, exposure to disease in
 21 people may increase significantly.

22 (e) Mosquitoes are an increasing vector of concern, particularly
 23 those species that have been introduced from other countries
 24 because changes in temperature and precipitation conditions can
 25 allow exotic species to become established in places where they
 26 could not previously survive year-round. Once established, the
 27 mosquitoes can reproduce in extremely small amounts of water
 28 and are very difficult to control. As temperatures rise, mosquito
 29 reproductive cycles are shortened, allowing more breeding cycles
 30 each season, and viral transmission rates rise sharply. These
 31 mosquitoes bite aggressively during the day and can spread a
 32 variety of diseases, including chikungunya, yellow fever, and
 33 dengue fever.

34 (f) The World Health Organization has stated that there is much
 35 evidence of associations between climate conditions and infectious
 36 diseases, noting that ~~mosquito-borne~~ *mosquitoborne* illnesses
 37 increase fivefold in the year after an El Niño event, like the weather
 38 patterns experienced in California in 2016.

1 (g) A 2008 study published in the American Journal of
2 Preventive Medicine stated that adapting to the effects of climate
3 change will require the development and enhancement of
4 surveillance systems, adequate response plans, and locally
5 appropriate strategies to control and prevent—vector-borne
6 *vectorborne* disease.

7 (h) West Nile virus was first detected in California in 2002 and
8 by 2004 had spread to all 58 counties in the state. This disease can
9 result in debilitating cases of meningitis and encephalitis and death
10 to humans, horses, avian species, and other wildlife.

11 (i) In August 2007, the Governor determined West Nile virus
12 activity to be an imminent threat and issued an executive order,
13 which included \$11.5 million in emergency funding for the State
14 Department of Public Health and local mosquito abatement and
15 vector control districts to identify and treat areas with heavy West
16 Nile virus presence.

17 (j) In spite of a statewide plan to prevent West Nile virus, in
18 2015 West Nile virus resulted in 860 human cases and 19 equine
19 cases statewide. There were 53 human and five equine deaths.

20 (k) Mosquito control agencies, the State Department of Public
21 Health, and the University of California have collaborated on
22 efforts to control mosquitoes and prevent—mosquito-borne
23 *mosquitoborne* illnesses. Collectively, mosquito control agencies
24 have financially sustained prevention resources, including the Dead
25 Bird Hotline and sentinel chicken testing, which provide first
26 response lab testing and monitoring when potential avian West
27 Nile virus activity is detected locally. These programs have been
28 successful in tracking infected mosquitoes and preventing humans
29 from acquiring the virus.

30 (l) In 2011, ~~vector-borne~~ *vectorborne* disease specialists first
31 detected the spread of two nonnative, invasive mosquitoes in
32 California, *Aedes aegypti* and *Aedes albopictus*. These species are
33 not detectable through the traditional prevention methods employed
34 by the State Department of Public Health, including the testing of
35 diseased birds.

36 (m) Invasive mosquitoes are extremely effective transmitters
37 of dangerous and potentially deadly diseases, including the Zika
38 virus, which has garnered international alarm. In addition to Zika,
39 these species transmit chikungunya, yellow fever, and dengue
40 fever.

1 (n) As of January 20, 2017, there were 472 cases of Zika virus
2 reported to the State Department of Public Health that were
3 acquired outside of the state or from contact with a traveler, and
4 four infants have been born with birth complications.

5 (o) The United States Global Change Research Program
6 recommends that the monitoring of ~~vector-borne~~ *vectorborne*
7 diseases in relation to climate change requires coordinated,
8 systematically collected, long-term surveillance datasets to
9 demonstrate how climate change will determine the risk for human
10 exposure to ~~vector-borne disease~~. *vectorborne diseases*.

11 (p) The Legislature therefore recognizes all of the following:

12 (1) The threat of West Nile virus, the Zika virus, and other
13 diseases is presenting greater pressure on public health and vector
14 control entities across the state.

15 (2) The management of these threats will only become more
16 challenging as California's climate continues to change.

17 (3) Surveillance, monitoring, and mapping are the most effective
18 ways to control mosquitoes, and the state has no formally
19 recognized program to do so.

20 (4) The California Vectorborne Disease Surveillance System,
21 known as CalSurv, is managed by the Center for Vector-borne
22 Diseases at the University of California, ~~Davis Davis~~, and is
23 capable of performing those predictive functions of mosquito
24 control.

25 2101. (a) There is hereby established the California Mosquito
26 Surveillance and Research Program to be administered by the
27 University of California, Davis, which shall perform all of the
28 following functions:

29 (a)

30 (1) Maintain an interactive internet website for management
31 and dissemination of data on ~~mosquito-borne~~ *mosquitoborne* virus
32 and surveillance control.

33 (b)

34 (2) Work in conjunction with local mosquito abatement and
35 vector control districts to conduct research on arbovirus
36 surveillance, transmission of ~~vector-borne~~ *vectorborne* diseases,
37 and mosquito ecology and control.

38 (c)

39 (3) Coordinate with the Mosquito and Vector Control
40 Association of California, State Department of Public Health, local

1 mosquito abatement and vector control districts, local governments,
2 and other affected stakeholders to share information.
3 *(b) The program established by this section shall perform the*
4 *functions described in subdivision (a) to the extent the program*
5 *receives federal or state grants or private donations or grants*
6 *made for those purposes.*

O



ASSEMBLY MEMBER

DISTRICT 20

Published on *Official Website - Assemblymember Bill Quirk Representing the 20th California Assembly District*
(<https://a20.asmdc.org> (<https://a20.asmdc.org>))

Home (/) > Opinion: California faces rising danger of mosquito-borne diseases

(<https://www.addthis.com/bookmark.php?v=300>) [1] (<https://www.addthis.com/bookmark.php?v=300>) [1]

(<https://www.addthis.com/bookmark.php?v=300>) [1]

Wednesday, July 24, 2019

West Nile virus is here to stay. Aedes mosquitoes, which can transmit Zika, have been found in 12 counties

East Bay Times

In the past year, California has experienced multiple public health crises. Last October, San Diego County health authorities declared an end to a Hepatitis A outbreak that killed 20 people and sickened nearly 600. That same month, health officials warned the public of a typhus outbreak in downtown Los Angeles. And now public health departments across the state are scrambling to prevent a widespread outbreak of measles.

But when most people think about mosquitoes, they consider them nuisances that cause itchy bites. They don't think about the public health risk and potential for mosquito-borne disease transmission. However, the threat of mosquito-borne diseases, especially West Nile virus, is also very serious and must be a public-health priority.

That's why I'm advocating for more state funding to support vector-borne-disease research, surveillance and data collection. It's critical that mosquito- and vector-control professionals and public health officials have resources they need to track and predict the emergence of mosquito-borne diseases and efficiently respond.

At its annual meeting in June, the American Medical Association called for more funding and resources for education, improved surveillance and research on existing and emerging vector-borne diseases. This is likely due in part to findings of the U.S. Centers for Disease Control and Prevention that disease cases from mosquito, tick and flea bites tripled in the United States from 2004 to 2016.

AMA Board Member E. Scott Ferguson, M.D., said, "our country currently has limited capacity to properly control mosquitoes, ticks and other sources of vector-borne disease that are causing more and more people to become ill. In fact, approximately 80 percent of vector-control organizations lack the resources they need to prevent and control vector-borne diseases."

This is true in California, which, according to the CDC, is one of the top states for mosquito-borne diseases. In 2018, West Nile virus activity was detected in 41 counties in California and there were 217 human West Nile virus disease cases, of which 154 were the more severe neuroinvasive form.

Looking back to 2003, there were only three human cases of West Nile virus and no fatalities. Since then there have been 6,799 human cases reported and 303 fatalities. While that number fluctuates each year, we know for certain

West Nile virus is here to stay in California.

At-risk groups such as the elderly, homeless and those who are immunocompromised or have comorbidities such as diabetes are particularly susceptible to suffering from mosquito-borne disease complications.

Moreover, California is home to invasive Aedes mosquitoes, which can transmit Zika, dengue, chikungunya and other exotic viruses. Invasive Aedes have been identified in 12 California counties, primarily in Southern California. Mosquito- and vector-control professionals are waging a tough fight to prevent them from spreading north.

The professionals also face daunting challenges from wildfires, which have created new, unattended water sources — such as abandoned swimming pools, ornamental ponds, septic tanks, buckets and barrels — that serve as breeding grounds for mosquitoes. These new challenges are placing even greater resource constraints on mosquito control and public health agencies as they work to prevent the spread of mosquito-borne diseases.

Mosquito-borne-disease threats affect all Californians regardless of where you live or your socio-economic status. There are no vaccines for people against West Nile virus and other mosquito-transmitted viruses, such as St. Louis encephalitis and chikungunya. All of these are costly to treat and can have long-term health and financial consequences.

It is far more effective to invest in preventative public health approaches instead of incurring enormous costs after large mosquito-borne-disease outbreaks occur.

Assemblyman Bill Quirk, D-Hayward, is a retired nuclear physicist.

Read more (<https://www.mercurynews.com/2019/07/24/opinion-california-must-address-danger-of-mosquito-borne-diseases/>) [2]

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Source URL: <https://a20.asmdc.org/news/20190724-opinion-california-faces-rising-danger-mosquito-borne-diseases>

Links

[1] <https://www.addthis.com/bookmark.php?v=300>

[2] <https://www.mercurynews.com/2019/07/24/opinion-california-must-address-danger-of-mosquito-borne-diseases/>

Mosquito Control Capabilities in the U.S.

October 2017

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Background & Methods

Mosquito-borne diseases are a constant public health concern in the United States. Zika virus (ZIKV) is a mosquito-borne virus spread to humans mainly through the bite of infected *Aedes aegypti* mosquitoes. The related *Ae. albopictus* mosquito can support ZIKV transmission in laboratory studies, so far.¹ Both mosquitoes inhabit a large portion of the U.S.

West Nile Virus (WNV), another mosquito-borne virus, is spread through the bite of infected *Culex* species mosquitoes. *Culex* mosquitoes can be found throughout the U.S., and WNV cases have been reported in every state within the continental U.S.

While local health departments and other local agencies are on the front lines of defense against ZIKV and WNV, almost no data exists on whether or not local agencies are prepared for a mosquito-borne virus outbreak. Without this information, federal and state efforts to support local response needs and address capacity gaps are significantly limited.

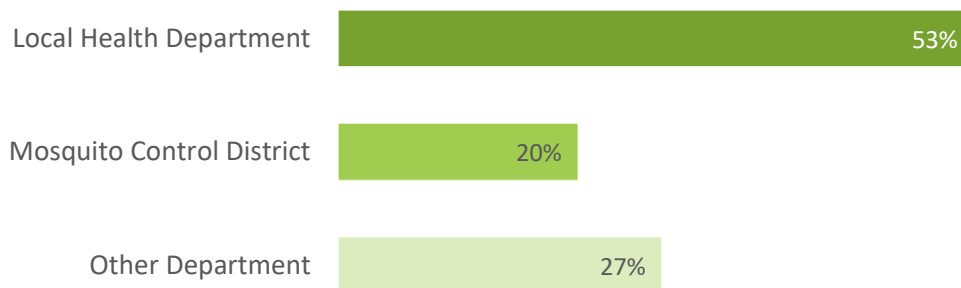
The Mosquito Surveillance and Control assessment was sent to the 1,906 vector control organizations in the U.S., representing all organizations identified by the Centers for Disease Control and Prevention (CDC), the American Mosquito Control Association (AMCA), and the National Association of County and City Health Officials (NACCHO).

A total of 1,083 vector control organizations completed the assessment for a 57% response rate.

Each vector control organization self-verified ongoing activities.

The assessment included 10 questions and was distributed online via Qualtrics Survey Software™.

Respondents represent vector control programs from different organizations across the United States



n = 1,083

Mosquito Surveillance and Control Assessment and Ranking

Definitions

A **Fully Capable** vector control organization performs all core and supplemental competencies.

A **Competent** vector control organization performs all core competencies.

A **Needs Improvement** vector control organization fails to perform one or more core competency.

A scoring matrix was created to prioritize or weight questions based on necessary capabilities of a competent vector control program. Using the CDC framework^{2,3} for vector control competency as guidance, five core competencies were used to rank each organization as **Fully Capable**, **Competent**, or **Needs Improvement**.

Core Competencies

1. Routine mosquito surveillance through standardized trapping and species identification
2. Treatment decisions using surveillance data
3. Larviciding, adulticiding, or both
4. Routine vector control activities (e.g., chemical, biological, source reduction, or environmental management)
5. Pesticide resistance testing

Supplemental Competencies

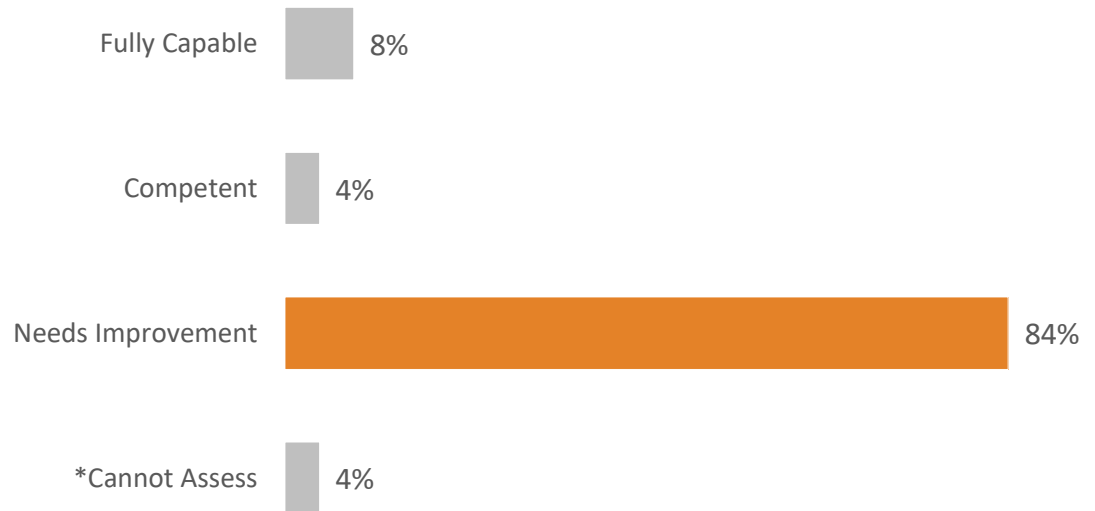
6. Licensed pesticide application
7. Vector control activities other than chemical control (e.g., biological, source reduction, or water management)
8. Community outreach and education campaigns regarding mosquito-borne diseases, how they spread, and how to prevent infection
9. Regular communication with local health departments regarding surveillance and epidemiology
10. Outreach (e.g., communication and/or cooperation) with nearby vector control programs

The overwhelming majority of vector control programs are in need of improvement

The assessment revealed that, based on the standards for competency developed and promoted by CDC and AMCA, **84% of respondents are in need of improvement** in at least one core competency area.

*Partially completed assessments were included for data analysis but could not be ranked for competency.

Percentage of vector control programs



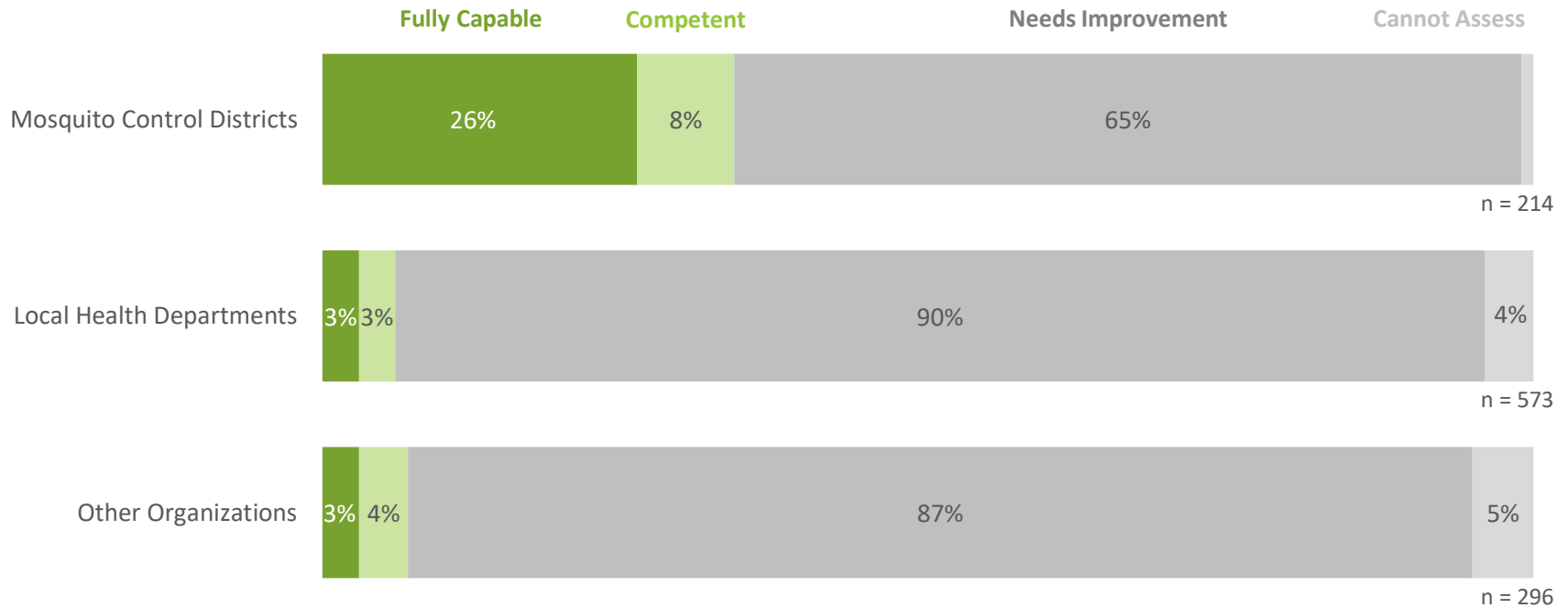
n = 1083

The level of vector control competency varies by organization type

Vector control programs are carried out by a variety of organizations across the U.S. Overall, they can be classified into three categories: **Local Health Departments**, **Mosquito Control Districts**, and **Others**.

“Other” includes a variety of city/local governmental agencies (e.g., public works departments, street and sanitation departments, Tribal networks, environmental health services, parish police juries, parks and recreation departments, weed and pest departments, and utilities departments).

These results reveal differences in mosquito surveillance and control capabilities based on organization type. For example, **mosquito control districts outperform** both local health departments and other city or local governmental agencies.

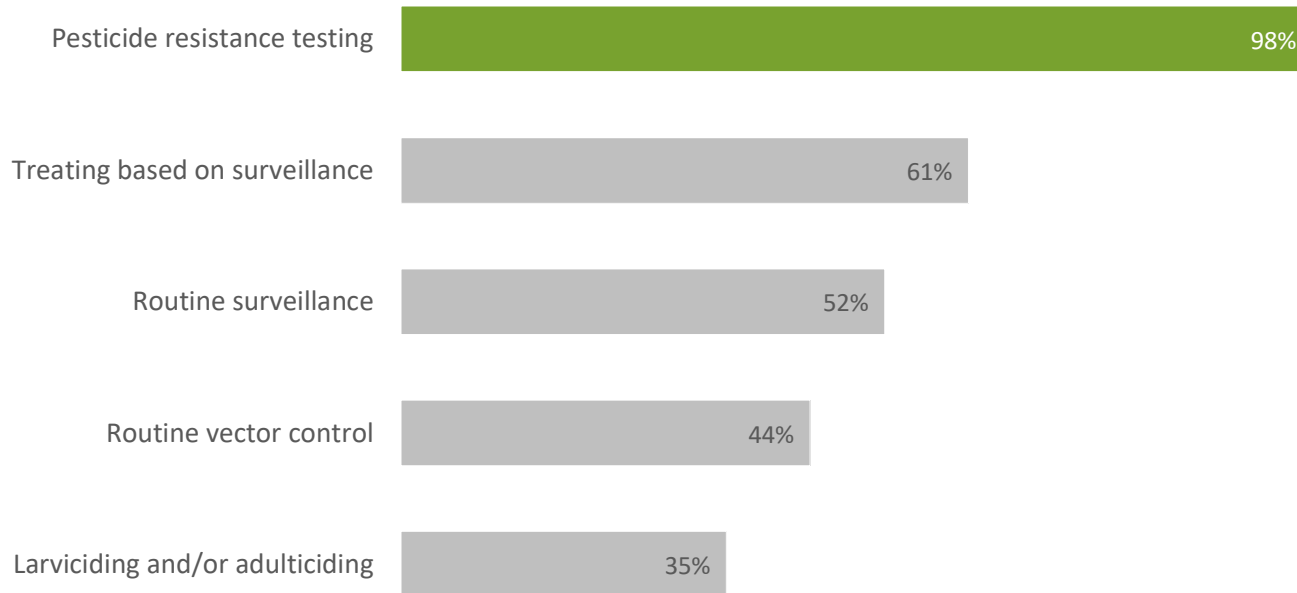


Pesticide resistance testing is the greatest competency gap for vector control programs

Of the vector control programs ranked as **Needs Improvement**, nearly all of them (98%) lack the capability or capacity to perform pesticide resistance testing.

More than half of these programs also lack competency in performing routine surveillance and species identification. Furthermore, gaps in competency exist related to using that surveillance data to make treatment decisions.

Percentage of “needs improvement” vector control programs lacking each core competency



n = 914

Routine standardized surveillance is NOT ROUTINE for all vector control programs

Mosquito surveillance

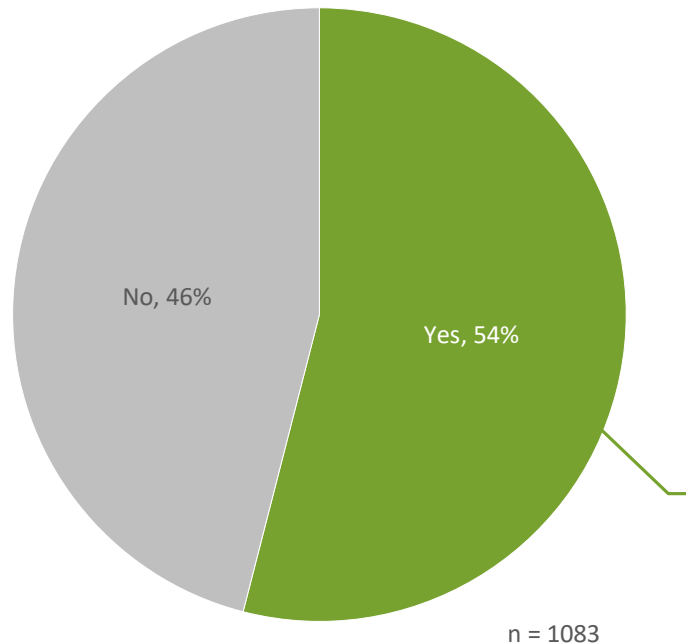
involves species identification, abundance, and spatial distribution within a geographic area through the collection of eggs, larvae, and adult mosquitoes. It is necessary for:

- Monitoring changes in abundance and species distribution;
- Evaluating control efforts; and
- Informing intervention decisions.⁴

46% of programs do not perform routine standardized surveillance.

Of those that do perform routine surveillance, 15% reported NOT using this information to inform mosquito-borne disease treatment decisions.

Percentage of vector control programs conducting routine surveillance for mosquitoes



Of these, 85% of vector control programs reported using the information gathered to make treatment decisions.

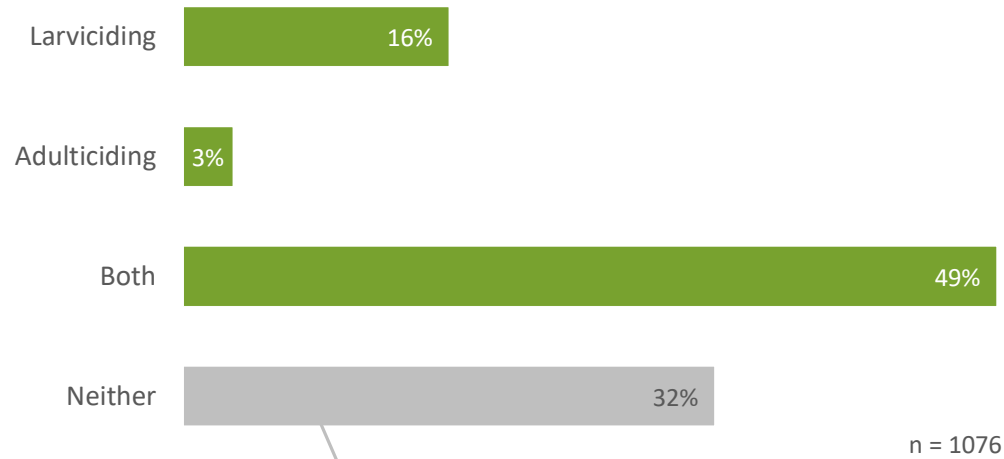
Chemical mosquito abatement is performed by most vector control programs

Larvicides (biopesticides and chemicals) inhibit the growth of mosquito larvae thereby reducing the number of adult mosquitoes in a given area.

Adulticides (insecticides) are toxic to mosquitoes, killing them via direct contact. Surveillance data is critical to justify the use of adulticides.

Chemical abatement using larvicides, adulticides, or a combination **is performed by the majority (68%) of vector control programs.**

Percentage of vector control programs conducting larviciding and/or adulticiding



Nearly one third of vector control programs do not perform any chemical abatement activities, leaving their communities at risk.

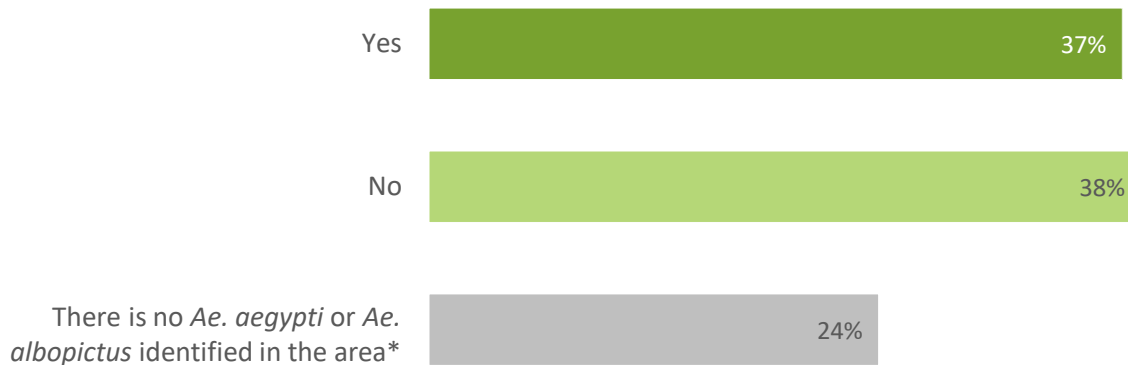
Routine species-specific mosquito control is NOT ROUTINE for all vector control programs

Species-specific vector control activities are not performed uniformly across the U.S. **38% of programs do not perform routine species-specific vector control.**

Routine species-specific vector control includes chemical, biological, source reduction, and/or environmental management activities tailored to the breeding and feeding habitats of different mosquito species.

* Respondents were not penalized if they indicated there is no *Ae. aegypti* or *Ae. albopictus* identified in the area.

Percentage of vector control programs engaging in routine vector control specifically for *Aedes aegypti* and/or *Aedes albopictus*



n = 1068

Vector control programs often lack pesticide resistance testing

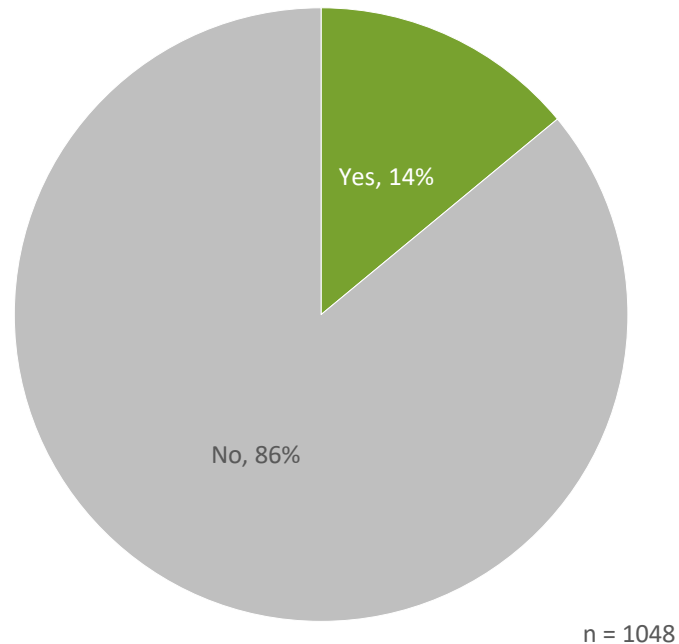
Pesticides and insecticides are chemicals used to control both larvae and adult mosquitoes. Mosquitoes repeatedly exposed to these chemicals over time can develop resistance.³

Pesticide resistance is an overall reduction in the ability of an insecticide to kill mosquitoes.

Of the responding vector control organizations, **86% do not perform pesticide resistance testing.**

To prevent or delay pesticide resistance from developing, vector control programs should include resistance testing, monitoring, and management.⁴

Percentage of vector control programs conducting pesticide resistance testing



Licensed pesticide use varies among vector control programs across the United States

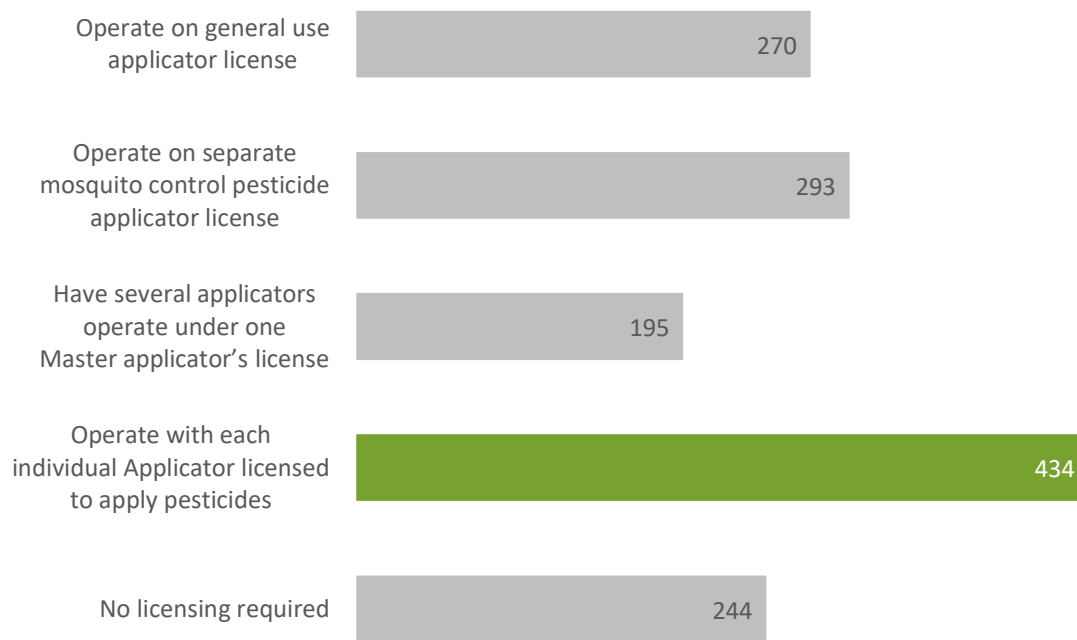
The majority of vector control programs require each operator to have an individual applicator license to apply pesticides.

Licensed pesticide application is one way to ensure that chemical mosquito abatement does not impact other non-target insects, plants, animals, and humans. Licensing requirements can vary by chemical type and state.

32% of programs applying larvicides and/or adulticides require no licensing, yet the assessment did not address their specific licensing requirements.

*Respondents were allowed to select all applicable answers.

Number of vector control programs in jurisdictions requiring licenses for pesticide application*



32% of those who do not require licensing are performing larviciding and/or adulticiding

n = 1436*

Alternatives to chemical control are not universally applied

Alternatives to chemical control of mosquitoes include:

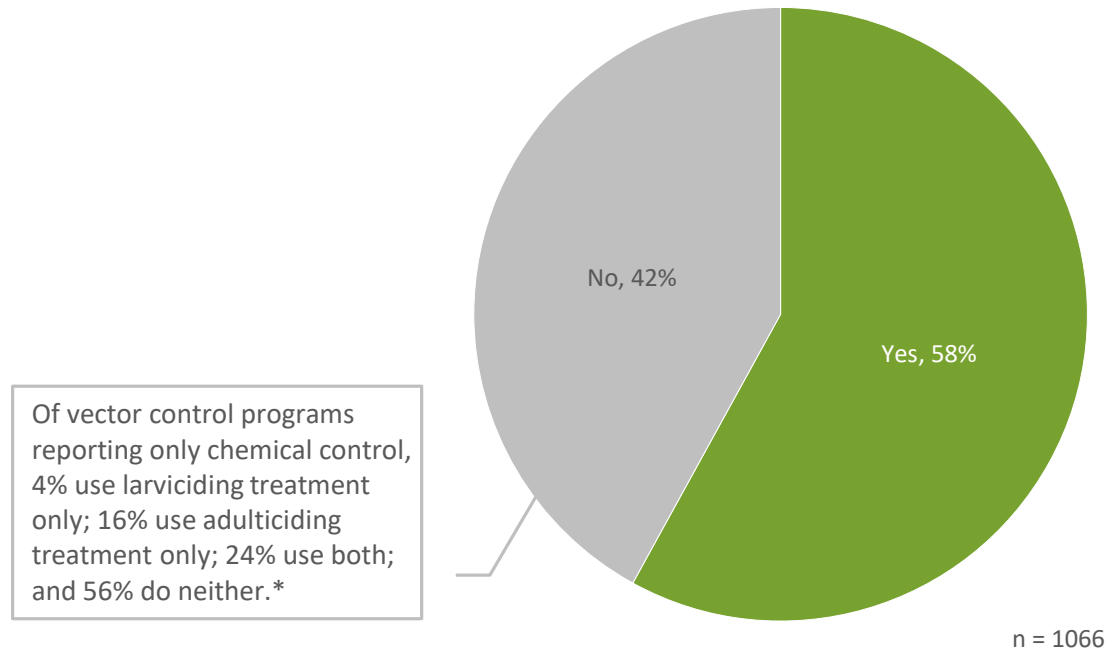
Larval source reduction is the most effective means of vector control. Mosquito larvae develop in standing, fresh water: through environmental modifications you can limit the water sources thereby reducing mosquito larvae.

Biological control entails using biological organisms to manage mosquitoes. These can include: aquatic predators and genetically modified organisms.

58% of programs perform non-chemical abatement activities, 42% do not.

*Of the programs reporting no non-chemical abatement, 56% do not perform any abatement activities, including chemical.

Percentage of vector control programs engaging in control activities other than chemical control



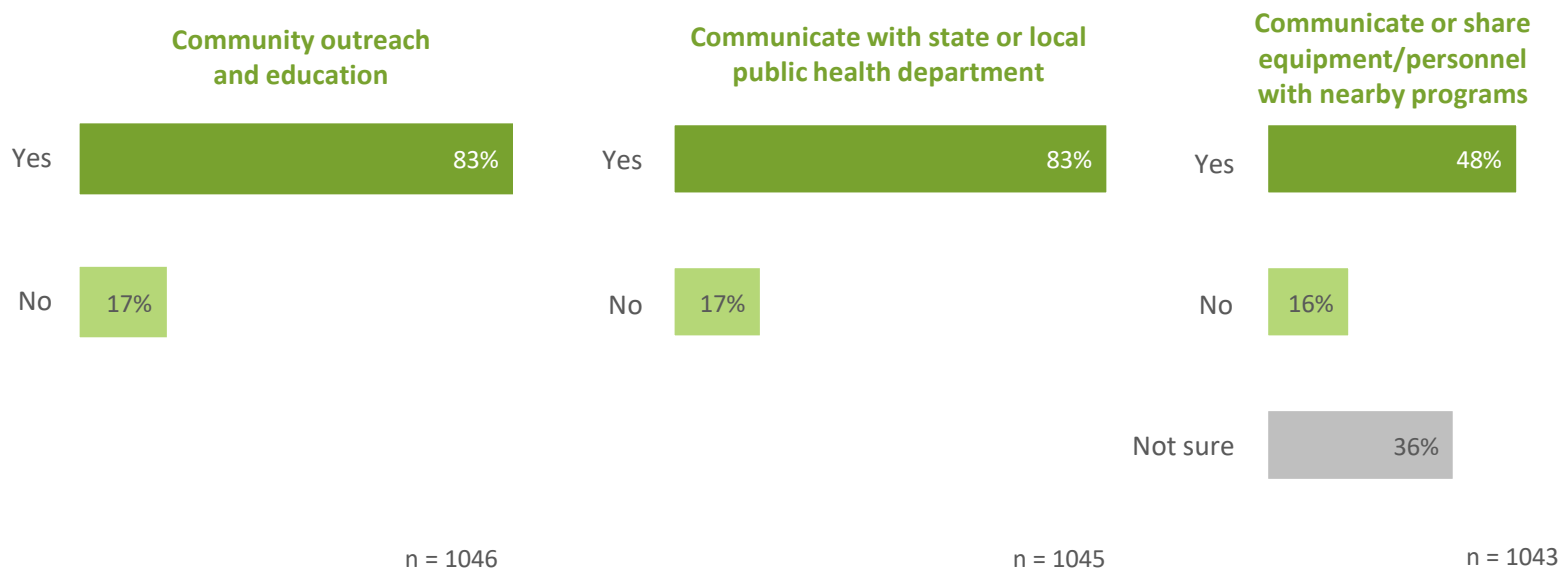
Community engagement and outreach is relatively common among vector control programs

The majority of vector control programs in the U.S. provide **community outreach activities to educate community members** on how to protect themselves from mosquito-borne diseases.

Programs also regularly **communicate with health departments** to receive human surveillance and epidemiology reports.

Nearly half of all programs are willing and able to **assist nearby vector control programs**, an important asset in controlling a disease outbreak.

Percentage of vector control programs engaging in activities



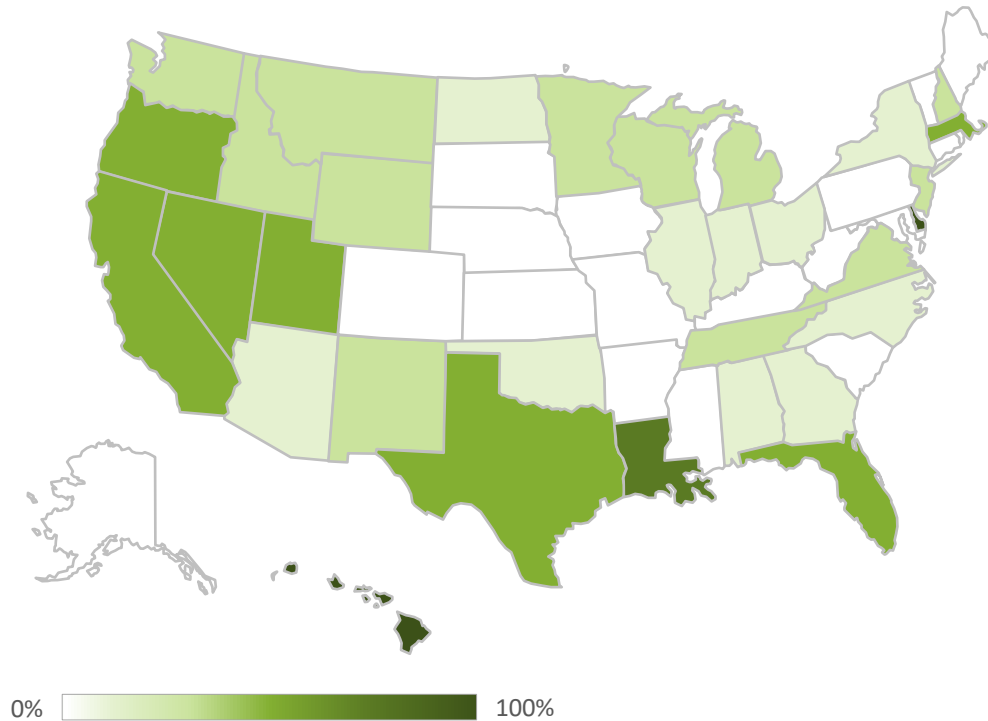
Vector control program competency varies across the United States

If you combine the fully capable and competent vector control programs in each state, the data reveals that **33 states had at least one vector control program meeting all core competencies**. All vector control programs in 17 states were rated needs improvement, indicating none of their vector control programs meet all core competencies.

Critical next steps include:

- **Identifying barriers** to implementing core competencies and
- **Revealing best practices** by fully capable and competent programs.

Percentage of vector control programs ranked as “fully capable” or “competent” by state



Limitations and Conclusions

This report describes the first nation-wide baseline assessment of mosquito surveillance and control activities across the U.S. This national report provides comparable data on baseline mosquito control programs to help identify local agencies' preparedness for mosquito-borne virus outbreaks.

A comprehensive understanding of mosquito surveillance and control activities in the U.S. is necessary to identify gaps and needs specific to vector control. As illustrated here, **84% of vector control programs in the country have been identified as "needs improvement"** in one or more core competency.

Reviewing the areas in which vector control programs need improvement can inform decision-makers of the top vector control priorities when allocating resources.

Top Vector Control Priorities:

1. Pesticide resistance testing;
2. Treating based on surveillance data;
3. Routine mosquito surveillance and species identification;
4. Routine, species-specific vector control;
5. Larviciding and/or adulticiding; and
6. Non-chemical vector control (e.g., biological, source reduction, water management).

Challenges and Gaps

Vector control programs are structured and operated differently in each jurisdiction.

Resources, or lack thereof, to support vector control programs was not addressed.

Due to the 57% response rate, the presented responses may not reflect all vector control programs.

Only publicly-funded vector control programs were assessed. Any town or jurisdiction that contracted out services was expected to complete the survey based on the terms of their contract.

Recommendations

Increase mosquito surveillance and control capacity through:

Providing quality and ongoing staff training in standard mosquito surveillance and control techniques;

Increasing awareness of the importance of pesticide resistance testing and the proper training to perform it routinely;

Forming mosquito control districts (34% of mosquito control districts perform all core competencies versus 6% and 7% of local health departments and other organizations, respectively); and

Ensuring sustainable funding and resources are dedicated to local vector control programs to maintain properly trained staff and adequate supplies to perform chemical and non-chemical abatement activities.

Decrease barriers to mosquito surveillance and control competency through:

Identifying the barriers to routine mosquito surveillance and pesticide resistance testing;

Bolster public communication strategies to educate property and home owners on eliminating mosquito breeding grounds;

Supporting data collection and sharing across jurisdictions to monitor mosquito species and density over time and pre-/post-control activities; and

Ensuring all mosquito control decisions are supported by surveillance data with appropriate thresholds.

NACCHO supports federal, state, and local funding for local health departments and mosquito control agencies to provide technical assistance, education, and research to support integrated mosquito management programs designed to benefit or cause minimal harm to people, domestic animals, wildlife, and the environment.

Acknowledgements

References

1. Ciota, A.T., Bialosuknia, S.M., Zink, S.D., Brecher, M., Ehrbar, D.J., Morrissette, M.N., & Kramer, L.D. (2017). Effects of Zika virus strain and *Aedes* mosquito species on vector competence. *Emerging Infectious Diseases*, 23(7), 1110-1117.

2. Centers for Disease Control and Prevention Division of Vector-Borne Diseases. (2013). *West Nile Virus in the United States: Guidelines for surveillance, prevention, and control*. Retrieved September 18, 2017, from <https://www.cdc.gov/westnile/resources/pdfs/wnvGuidelines.pdf>.

3. CDC. (June 14, 2017). *Integrated mosquito management for Aedes aegypti and Aedes albopictus mosquitoes*. Retrieved September 18, 2017, from https://www.cdc.gov/zika/vector/integrated_mosquito_management.html.

4. American Mosquito Control Association. (2017). *Best practices for mosquito control 2017: a focused update*. Retrieved September 18, 2017, from http://c.ymcdn.com/sites/www.mosquito.org/resource/resmgr/docs/Resource_Center/Training_Certification/amca_guidelines_final_pdf.pdf.

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For more information, please contact:
Dr. E. Oscar Alleyne at
oealleyne@naccho.org
Dr. Chelsea L. Gridley-Smith at
cgridley-smith@naccho.org

The mission of the National Association of County and City Health Officials (NACCHO) is to be a leader, partner, catalyst, and voice with local health departments.

1201 Eye Street, NW, 4th Floor
Washington, DC 20005

P: 202-783-5550

F: 202-783-1583

<http://www.naccho.org>

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Mosquito & Vector Control as Special Districts: Opportunities and Challenges

Presented by:
Ryan Clausnitzer

General Manager
Alameda County Mosquito Abatement District

Treasurer
California Special District Association
MVCAC February 2019



what is a special district
what is a special district
what is a special district in **california**
what is a special district in **colorado**
what is a special district **quiet**
what is a special **utility** district in **texas**
what is a special **utility** district
what is a special **school** district
what is a special **improvement** district
what is a special **assessment** district
what is a special **act school** district

Google Search I'm Feeling Lucky

Report inappropriate predictions



Last Week Tonight with John Oliver
March 6, 2016



Special Districts:
Improving Oversight & Transparency

Report #239, August 2017

Milton Marks "Little Hoover"
Commission on California State
Government
Organization and Economy, is an
independent state oversight agency.

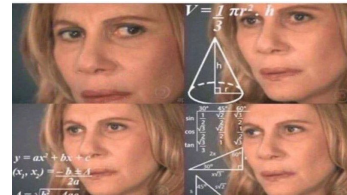


My talk

1. What are special districts?
2. How many mosquito and vector districts are special districts?
3. Why is this form of government common for mosquito and vector districts?
4. What threats do special districts face?
5. What can you do?



1. What is a special district?



- **A special district is**

- Created by a community's residents;
- Funded by a community's residents; and
- Overseen by a community's residents

...for the purpose of providing a new or enhanced level of service and infrastructure to the community

- **Special districts are formed when it's something:**

- The community wants;
- The community wants done well; and
- The community wants done with local control



What makes special districts so "special"?

- Focused "specialized" service
 - Perform a specific set of services
 - Innovation and prudent long-term planning
 - Deliver unmet service needs
- Voter driven
 - Formed with the consent of the voters
 - Raise taxes only with the consent of the voters
 - Governed by board members that represent the voters



Community's essential services

Districts protect **health and safety**:

- Fire Protection
- Healthcare
- Mosquito Abatement and Vector Control
- Police Protection



Community's essential services

Districts provide **local infrastructure**:

- Water, Irrigation, and Flood Control
- Sanitation, Wastewater, and Water Recycling
- Resource, Land, and Water Conservation
- Electricity
- Airport, Port, and Harbor
- Transit



Community's essential services

Districts **improve quality of life:**

- Recreation and Park
- Library
- Veterans Memorial
- Public Cemetery



Funding for special districts

Special districts are funded through enterprise and non-enterprise revenues.

- **Enterprise revenues** are fees for service(s) such as:
 - Water rates
 - Sewer rates
 - Electricity rates
- **Non-enterprise revenues** include:
 - 1% ad valorem property taxes
 - Parcel taxes/special taxes
 - Benefit assessments



Independent vs. Dependent

- Independent special districts** are sanctioned under California Law and created by local voters for the performance of specified core services. Local residents govern the operation of their districts through locally elected or appointed boards of directors.
 - Defined in Government Code Section 56044
- Dependent special districts** have a "...legislative body that consists, in whole or part, of ex officio members who are the officers of a county or another local agency or who are appointees of those officers, and who are not appointed to fixed terms."
 - Government Code Section 56032.5



Statutory authority and enabling legislation

- **36 principal act statutes** that apply to the different types of special districts such as:
 - Fire protection districts (Health & Safety Code §13800 et Seq.)
 - Community services districts (Government Code §61000 et Seq.)
 - Mosquito and Vector Control Districts (Health & Safety Code §2000 et Seq.)



An Independent Special District is NOT:

- ❑ NOT a part of the state government
- ❑ NOT a part of a city or county government
- ❑ NOT a school or college district
- ❑ NOT a joint powers authority (JPA)
- ❑ NOT a non-profit corporation
- ❑ NOT a county service area (CSA)
- ❑ NOT an assessment district or special assessment district
- ❑ NOT a community facilities district or "Mello-Roos" district
- ❑ NOT an improvement district
- ❑ NOT a permanent road division



History of special districts in California

- Started in the 1880's with irrigation districts
 - Turlock Irrigation District formed in 1887 following passage of the Wright Act
- Mosquito abatement districts first formed in 1915 in response to SF Bay salt marshes and spread of malaria
- Since 1997, the number of special districts in California has gone down by 5%, while the population increased by 21% and the number of districts nationwide continued to grow by 10% in same period
- Today, there are about 2,000 independent special districts serving communities throughout California



History of mosquito & vector districts in California

- 1904: San Rafael—control for salt marsh mosquitoes
- 1905: Burlingame—control for salt marsh mosquitoes
- 1908: Central Valley anti-malaria campaigns: (Penryn*, Oroville, Bakersfield, Los Molinos)
- 1915: Governor Hiram W. Johnson signs AB 1565 (Beck-Livermore) allowing communities to set up mosquito abatement districts
- 1915: **First districts formed:** Marin Mosquito Abatement and the Three Cities Mosquito Abatement District (San Mateo County)
- 1930: **MVCAC** (then, CMCA) **formed** through the efforts of Alameda County Mosquito Abatement District Manager, Harold Gray, and Trustee UC Professor William B. Herms

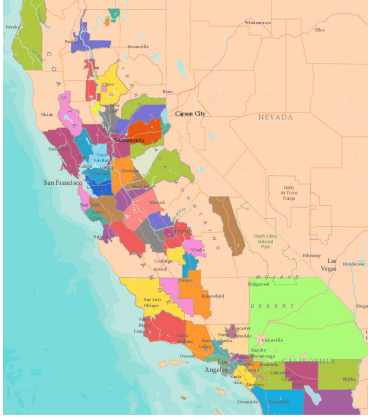


* Recognized by the MVCAC as the first organized anti-malaria campaign in the United States



2. Why are mosquito and vector districts mostly organized as special districts?







Mosquito and Vector Districts in California

- Of the 66 Mosquito and Vector Districts in California, 60 are special districts, or 91%
- Of the 60 special districts
 - 54 are independent
 - 6 are dependent

Data courtesy of the CSDA





3. What makes this the preferred form of government for mosquito and vector control?





Why special districts?

- Specialized equipment

Why special districts?

- Specialized training

Why special districts?

Consistency

Mosquito and Vector control continues *despite* trends

***This allows for long-term suppression and institutional knowledge



Why special districts?

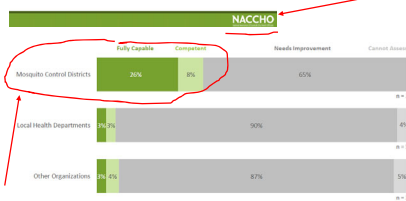
Local governance and accountability

- Board of directors: Elected directly by the districts' voters or appointed for fixed terms by other locally elected officials
- Sunshine laws ensure special districts remain transparent and accountable to their communities:
 - **Open and public meetings** in accordance with the Brown Act
 - **Public records**
 - Regular **audits** with the county auditor
 - Finances are posted online and provided to State Controller **compensation reports**
 - Regular **municipal service reviews** by Local Agency Formation Commissions
 - Required **ethics** and **harassment training**



Mosquito Control Capabilities in the U.S.

October 2017



Recommendations

Increase mosquito surveillance and control capacity through:

Providing quality and ongoing staff training in standard mosquito surveillance and control techniques;

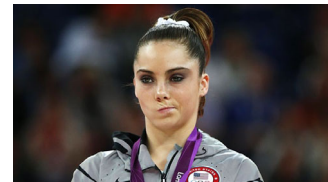
Increasing awareness of the importance of pesticide resistance testing and the proper training to perform it routinely;

Forming mosquito control districts (34% of mosquito control districts perform all core competencies versus 6% and 2% of local health departments and other organizations, respectively); and

Ensuring sustainable funding and resources are dedicated to local vector control programs to maintain properly trained staff and adequate supplies to perform chemical and non-chemical abatement activities.



4. What threats do special districts face?



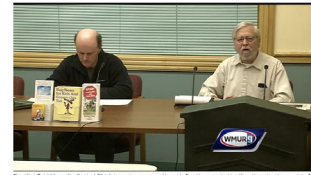
- Awareness
- Reserves (feast or famine)
- Authority granted by the State (can be taken away)
- Principal-Agent Problem (conflicting incentives through asymmetric information)



Flying under the radar:

Limits influence

Cannot have your cake and eating it too



The Litchfield Mosquito Control District meets every month, and after the recent election, there has been a lot of extra interest on what happens at its meetings.



Financial planning

Reserves are necessary but require justification and documentation

Revenues sources are extremely restricted & valuable...so be diligent with public money or else



Special districts are not immune to state control

We were created by the State and thus can be destroyed



RICH PEDRONCELLI AP PHOTO

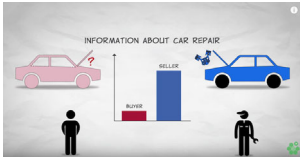
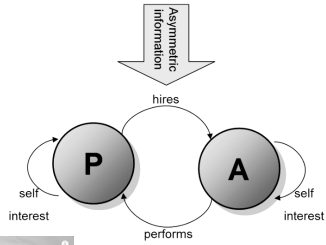
Governor Jerry Brown wants to eliminate redevelopment agencies and save the state about \$1.7 billion annually, with greater savings possible down the road, when debts are retired.



Principal agent theory

Or, the perception of:

Acting in the best interest of our constituents.



5. What can we do as a special district (and what can an association do for us?)



What can your district do:

1. Meet your state and local officials
2. Promote yourself as a special district
3. Follow best practices: financial, HR
4. Meet with other special districts—especially at chapter meetings

What can the association do:

1. Advocate
2. Train
3. Vendor Discounts
4. Network via communities

Good governance recognition programs through CSDA



- The Special Districts Leadership Foundation is a non-profit, 510(c)3 that promotes good governance and best practices among California's special districts through certification, accreditation, and other recognition.

- Signature programs:
 - District Transparency Certificate of Excellence
 - District of Distinction
 - Recognition in Special District Governance



Special District Associations → Mosquito and Vector Associations



In summary

- Central to the success of special districts, is their ability to connect:
 - Governance;
 - Revenue authority; and
 - Specialized service delivery



Thank you-

Ryan Clausnitzer, MPA, REHS
General Manager

Alameda County Mosquito Abatement District
23187 Connecticut Street
Hayward, CA 94545
www.mosquitoes.org
ryan@mosquitoes.org
510-925-1756

California Special District Association
1112 I Street
Sacramento, CA 95814
www.csga.net
916-442-7887



Alameda County Mosquito Abatement Dist.
 Check Register
 For the Period From Jul 1, 2019 to Jul 15, 2019

Filter Criteria includes: Report order is by Date.

Check #	Date	Payee	Amount
1683	7/11/19	Payroll	76,782.69
1684	7/11/19	Airgas	455.98
1685	7/15/19	Argo Adventure	50.56
1686	7/15/19	All-Ways Green Services	410.00
1687	7/15/19	Alameda County LAFCO	742.00
1688	7/15/19	BARTKIEWICZ, KRONICK & SHANAHAN	1,540.00
1689	7/15/19	CalPERS 457	2,742.65
1690	7/15/19	Cintas	263.18
1691	7/15/19	Clarke	7,402.86
1692	7/15/19	Castillo, Erika	91.81
1693	7/15/19	Campbell, Cornelius	190.00
1694	7/15/19	Clausnitzer, Ryan	474.44
1695	7/15/19	Delta Dental	4,505.91
1696	7/15/19	East Bay EDA	1,500.00
1697	7/15/19	Fisher Healthcare	273.63
1698	7/15/19	Grainger	135.93
1699	7/15/19	Guaranteed Auto Service	1,521.59
1700	7/15/19	Integrated DNA Technologies, Inc	578.17
1701	7/15/19	Industrial Park Landscape Maintenance	215.00
1702	7/15/19	Kimball Midwest	202.20
1703	7/15/19	MVCAC	10,500.00
1704	7/15/19	National CineMedia, LLC	4,313.34
1705	7/15/19	PFM Asset Management	1,613.95
1706	7/15/19	Port of Oakland	1.00
1707	7/15/19	PG&E	105.81
1708	7/15/19	Praxair Distribution, Inc.	89.38
1709	7/15/19	Regional Government	2,719.75
1710	7/15/19	Ranjit K. Singh	351.20
1711	7/15/19	The Hartford	77.78
1712	7/15/19	Techniclean	93.64
1713	7/15/19	The Lock Doctor	200.36
1714	7/15/19	Voya Institutional Trust Company	177.41
1715	7/15/19	VCJPA	133,141.92
1716	7/10/19	U.S Bank Corporate Payment System	37,454.42
ACH	7/15/19	CalPERS Retirement	897.00
ACH	7/15/19	CalPERS Retirement	186,159.00
ACH	7/15/19	CalPERS Retirement	13,107.06
Total Expenditures - July 15, 2019			491,081.62

Alameda County Mosquito Abatement Dist.
Check Register
For the Period From Jul 16, 2019 to Jul 31, 2019

Filter Criteria includes: Report order is by Date.

Check #	Date	Payee	Amount
1717	7/31/19	Payroll	77,936.58
1718	7/31/19	James N Doggett	100.00
1719	7/31/19	Robert Dickinson	100.00
1720	7/31/19	Eric Armin Hentschke	100.00
1721	7/31/19	Wendi Lynn Poulson	100.00
1722	7/31/19	George Young	100.00
1723	7/31/19	Airgas	1,083.72
1725	7/31/19	Alco Sheet Metal and Heating, Inc.	405.00
1726	7/31/19	Bartel Associates, LLC	3,482.00
1727	7/31/19	Thomas Branan	238.00
1728	7/31/19	Cintas	3,071.71
1729	7/31/19	Castillo, Erika	50.00
1730	7/31/19	Delta Dental	4,505.91
1731	7/31/19	Department of Pesticide Regulation	110.00
1732	7/31/19	Fisher Healthcare	1,543.78
1733	7/31/19	Greenwood & Moore, Inc.	1,000.00
1734	7/31/19	Hayward Water System	572.16
1735	7/31/19	JCR Custom/ Paul Builders	51,331.40
1736	7/31/19	Matthes, Michelle	250.00
1737	7/31/19	National CineMedia, LLC	727.86
1738	7/31/19	NBC Supply Corp	109.75
1739	7/31/19	PG&E	1,868.20
1740	7/31/19	Pitney Bowes	1,020.99
1741	7/31/19	Praxair Distribution, Inc.	1.37
1742	7/31/19	The Hartford	77.78
1743	7/31/19	Treds	183.00
1744	7/31/19	VSP	667.19
1745	7/31/19	Verizon	1,457.11
1746	7/31/19	WEX Bank	4,561.63
1747	7/31/19	Waste Management of Alameda County	272.16
1748	7/31/19	VCO	6,524.18
1751	7/31/19	CalPERS 457	2,742.65
1752	7/31/19	Voya Institutional Trust	177.41
ACH	7/31/19	Victor Aguilar	100.00
ACH	7/31/19	Subrahmanya Y Bhat	100.00
ACH	7/31/19	Alan Brown	100.00
ACH	7/31/19	Elizabeth Cooley	100.00
ACH	7/31/19	Elisa Marquez	100.00
ACH	7/31/19	Cathy J Pinkerton. Roache	100.00
ACH	7/31/19	CalPERS Retirement	13,106.49
ACH	7/31/19	CalPERS Health	32,528.44

Total Expenditures - July 31, 2019 212,706.47

Voided checks: 1724, 1749, 1750

**Alameda County Mosquito Abatement District
Income Statement
July 31, 2019. (1 of 12 mth, 8%)**

REVENUES	Actual 2017/18	Actual 2018/19 ¹	Current Month	Year to Date 2019/20	Budget 2019/20	Actual vs Budget
Total Revenue	\$ 4,623,350.00	\$ 4,063,848.12	\$ 122.25	\$ 122.25	\$ 4,705,236.00	0%

EXPENDITURES	Actual 2017/18	Actual 2018/19 ¹	Current Month ²	Year to Date 2019/20	Budget 2019/20	Actual vs Budget
Salaries	\$1,744,412	\$ 1,874,396.01	\$ 169,560.30	\$ 169,560.30	\$2,425,552	7%
CalPERS Retirement	\$262,107	\$ 310,838.21	\$ 202,011.62	\$ 202,011.62	\$360,538	56%
Medicare	\$23,564	\$ 25,149.24	\$ 2,257.02	\$ 2,257.02	\$30,843	7%
Fringe Benefits	\$449,954	\$ 452,960.30	\$ 42,601.01	\$ 42,601.01	\$502,043	8%
Total Salaries, Retirement, & Benefits	\$2,480,037	\$ 2,663,343.76	\$416,430	\$416,430	\$3,318,976	13%
Clothing and personal supplies (purchased)	\$ 7,308.71	\$ 8,899.04	\$ 351.20	\$ 351.20	\$8,000	4%
Laundry service and supplies (rented)	\$ 9,819.37	\$ 12,602.62	\$ 1,436.46	\$ 1,436.46	\$12,750	11%
Utilities	\$ 29,830.25	\$ 30,161.25	\$ 2,712.52	\$ 2,712.52	\$12,600	22%
Communications-IT	\$ 102,855.59	\$ 108,886.22	\$ 1,457.11	\$ 1,457.11	\$117,100	1%
Maintenance: structures & improvements	\$ 21,374.70	\$ 13,673.39	\$ 405.00	\$ 405.00	\$25,000	2%
Maintenance of equipment	\$ 43,585.45	\$ 43,628.61	\$ 636.12	\$ 636.12	\$35,000	2%
Transportation, travel, training, & board	\$ 131,330.43	\$ 98,432.96	\$ 5,777.63	\$ 5,777.63	\$134,260	4%
Professional services	\$ 100,563.13	\$ 112,944.66	\$ 2,545.00	\$ 2,545.00	\$169,320	2%
Memberships, dues, & subscriptions	\$ 15,933.00	\$ 20,773.00	\$ 12,742.00	\$ 12,742.00	\$22,655	56%
Insurance - (VCJPA, UAS)	\$ 131,392.69	\$ 125,189.76	\$ 133,141.92	\$ 133,141.92	\$133,546	100%
Community education	\$ 64,109.47	\$ 34,860.85	\$ 5,101.19	\$ 5,101.19	\$40,000	13%
Operations	\$ 176,000.00	\$ 206,731.27	\$ 110.75	\$ 110.75	\$228,500	0%
Household expenses	\$ 18,101.06	\$ 18,656.19	\$ 410.00	\$ 410.00	\$15,850	3%
Office expenses	\$ 10,753.26	\$ 11,795.67	\$ -	\$ -	\$14,500	0%
Laboratory supplies	\$ 113,768.06	\$ 95,640.16	\$ 2,866.01	\$ 2,866.01	\$137,000	2%
Small tools and instruments	\$ 8,376.29	\$ 2,211.74	\$ -	\$ -	\$3,000	0%
Total Staff Budget	\$ 985,101.46	\$ 945,087.39	\$ 169,692.91	\$ 169,692.91	\$1,109,081	15%
Total Operating Expenditures	\$ 3,465,138.55	\$ 3,608,431.15	\$ 586,122.86	\$ 586,122.86	\$4,428,057	13%

1 - Unaudited amount, as of July 31, 2019.

2 - Total Operating Expenditures in current month do not match the check register due to accounts receivable, capital purchases, and petty cash transactions.

**Alameda County Mosquito Abatement District
Investment, Reserves, and Cash Balance Report
July 31, 2019. (1 of 12 mth, 8%)**

Account #	Investment Accounts	Beginning Balance	Deposits	Withdrawals	Interest Activity	New Balance
1004	LAIF	\$ 3,005,839.55	\$ -	\$ (1,192,000.00)	\$ 14,684.63	\$ 1,828,524.18
1005	OPEB Fund	\$ 4,401,634.54	\$ -	\$ -	\$ 170.73	\$ 4,401,805.27
1006	VCJPA Member Contingency	\$ 348,346.00	\$ -	\$ -	\$ -	\$ 348,346.00
1007	VCJPA Property Contingency	\$ 52,025.00	\$ -	\$ -	\$ -	\$ 52,025.00
1008	CAMP: Repair and Replace	\$ 336,821.04	\$ -	\$ -	\$ 690.96	\$ 337,512.00
1009	CAMP: Public Health Emergency	\$ 516,770.55	\$ -	\$ -	\$ 1,060.10	\$ 517,830.65
1010	CAMP: Operating Reserve	\$ 1,909,412.95	\$ -	\$ -	\$ 3,916.98	\$ 1,913,329.93
1011	CAMP: Capital Reserve Fund	\$ 231,328.60	\$ -	\$ -	\$ 474.55	\$ 231,803.15
1012	PARS: Pension Stabilization ¹	\$ 1,036,130.93	\$ -	\$ -	\$ 28,404.77	\$ 1,064,535.70
Total		\$ 11,838,309.16				\$ 10,695,711.88
		Beginning Balance		Withdrawals	Activity	New Balance
Cash Accounts						
1001	Bank of America (Payroll Account)	\$ 120,567.91				\$ 42,316.56
1002	Bank of The West (Transfer Account)	\$ 335,805.48				\$ 954,587.16
1003	County Account	\$ 204,548.94				\$ 204,671.19
Total		\$ 660,922.33	\$ -	\$ -	\$ -	\$ 1,201,574.91

1- PARS - Pension Stabilization balance is as of June 30, 2019.

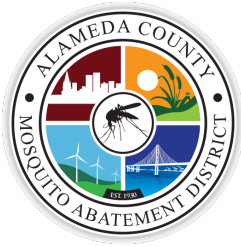
Alameda County Mosquito Abatement Dist.
Balance Sheet
July 31, 2019

ASSETS

Current Assets	
Cash	\$ 4,401,805.27
Bank of America payroll	114,752.43
Bank of the West	843,087.05
County	204,671.19
Cash with LAIF	1,828,524.18
VCJPA - Property Contingency	52,025.00
VCJPA- Member Contingency	348,346.00
CAMP - Repair and Replace	337,512.00
CAMP - Public Health Emergency	517,830.65
CAMP - Operating Reserve	1,913,329.93
CAMP - Capital Reserve Fund	231,803.15
PARS	1,064,535.70
Petty cash	<u>503.50</u>
Total Current Assets	11,858,726.05
Property and Equipment	
Acc Dep - equipment	(1,306,030.50)
Acc Dep - stru & improv	(2,316,874.89)
Construction in progress	409,074.98
Equipment	1,619,670.10
Structure/improvement	4,529,022.67
Land	<u>61,406.00</u>
Total Property and Equipment	2,996,268.36
Other Assets	
Net OPEB Asset	<u>716,666.00</u>
Total Other Assets	<u>716,666.00</u>
Total Assets	<u><u>\$ 15,571,660.41</u></u>

LIABILITIES AND CAPITAL

Current Liabilities	
Accounts payable	\$ 99,359.51
Acc payroll/vacation	167,855.50
Def inflow - 75	41,760.00
Def inflow pen defer GASB 68	809,861.00
Defer outflow pen cont GASB 68	(818,392.00)
Net pension liability GASB 68	<u>2,642,666.00</u>
Total Current Liabilities	2,943,110.01
Long-Term Liabilities	
OPEB Fund	<u>4,401,805.27</u>
Total Long-Term Liabilities	<u>4,401,805.27</u>
Total Liabilities	7,344,915.28
Capital	
Designated fund balances	4,100,295.19
Investment in general fixed as	4,683,479.37
Net Income	<u>(557,029.43)</u>
Total Capital	<u>8,226,745.13</u>
Total Liabilities & Capital	<u><u>\$ 15,571,660.41</u></u>



23187 Connecticut Street
Hayward, CA 94545

T: (510) 783-7744
F: (510) 783-3903

acmad@mosquitoes.org

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MONTHLY STAFF REPORT – July 2019

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Subru Bhat

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General Manager

1. OPERATIONS REPORT

In July, operations staff closely monitored tidal sources around the bay margins of the county for hatches of *Aedes dorsalis* eggs. There were three high-tide events during the month that were significant enough to flood areas that could produce hatches. During the summer months, there is usually at least one high tide event that warrants attention including inspections and often treatments, on occasion there are two, this past month we had three of these high-tide cycles. After each of these tide events, operations staff conducted inspections and applied several treatments for *Aedes dorsalis* larvae. Based on service request data and trap data, adequate control was achieved for this species. Of the forty-three requests for service to report mosquito problems received from the public in July, only ten percent were attributable to *Aedes dorsalis*.

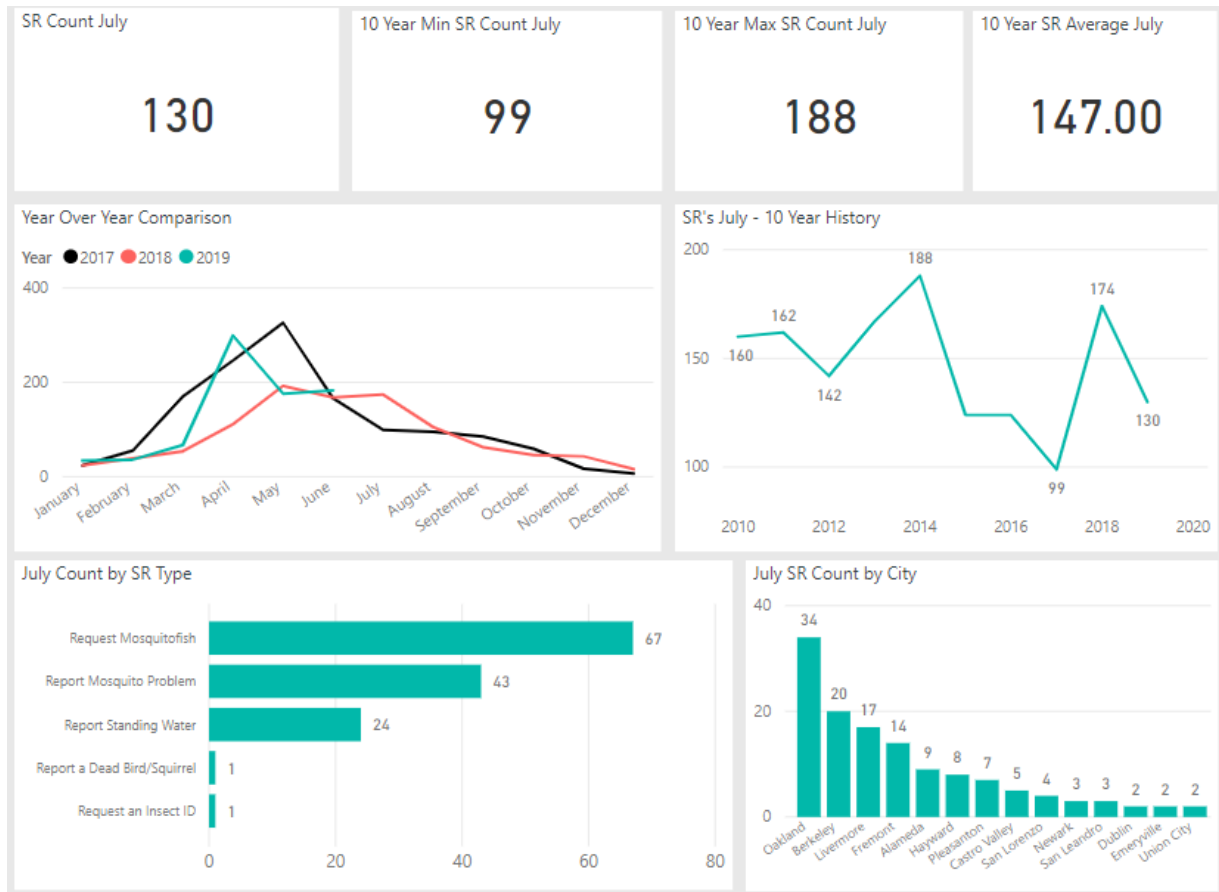
Operations staff responded to 130 total requests for service during July. Over fifty percent of these requests were for mosquito fish in back yard ponds, unmaintained swimming pools and livestock watering troughs. Eighteen percent of requests were to inspect standing water for potential mosquito breeding. Most requests were to report unmaintained swimming pools with reports of standing water in ponds, and water standing in street gutters and yards due to seepages and overwatering. A third of requests were to report mosquito problems. Aside from the 10% of problem calls pertaining to *Aedes dorsalis*, the balance was mainly attributable to two species; *Culex pipiens* and *Culiseta incidens*. These two species are our most common problem this time of year and both are found in numerous sources county-wide. Both species will readily utilize many different source-types to lay eggs and can require a fair amount of effort on the part of operations staff to locate and eliminate.

To date, no West Nile virus positive bird or mosquito have been detected in Alameda County. Operations staff has continued their focus on inspecting and treating sources for our three *Culex sp.* of concern for WNV transmission: *Culex tarsalis*, *Cx. pipiens*, and *Culex erythrorhax*. Each of these three species have their own distinctive ecology, preferred habitat sites, and different flight ranges and dispersal patterns. ACMAD's focus on controlling mosquito populations while they are in their larval state requires operations staff to have good working knowledge of the biology of each species they encounter to maintain effective control. This also requires a good knowledge of both existing and potential breeding sources in any given zone and involves proper selection of materials to achieve control as well as precise timing. This involves a continual learning process and exchange of information at an operations level, throughout the District, and beyond.

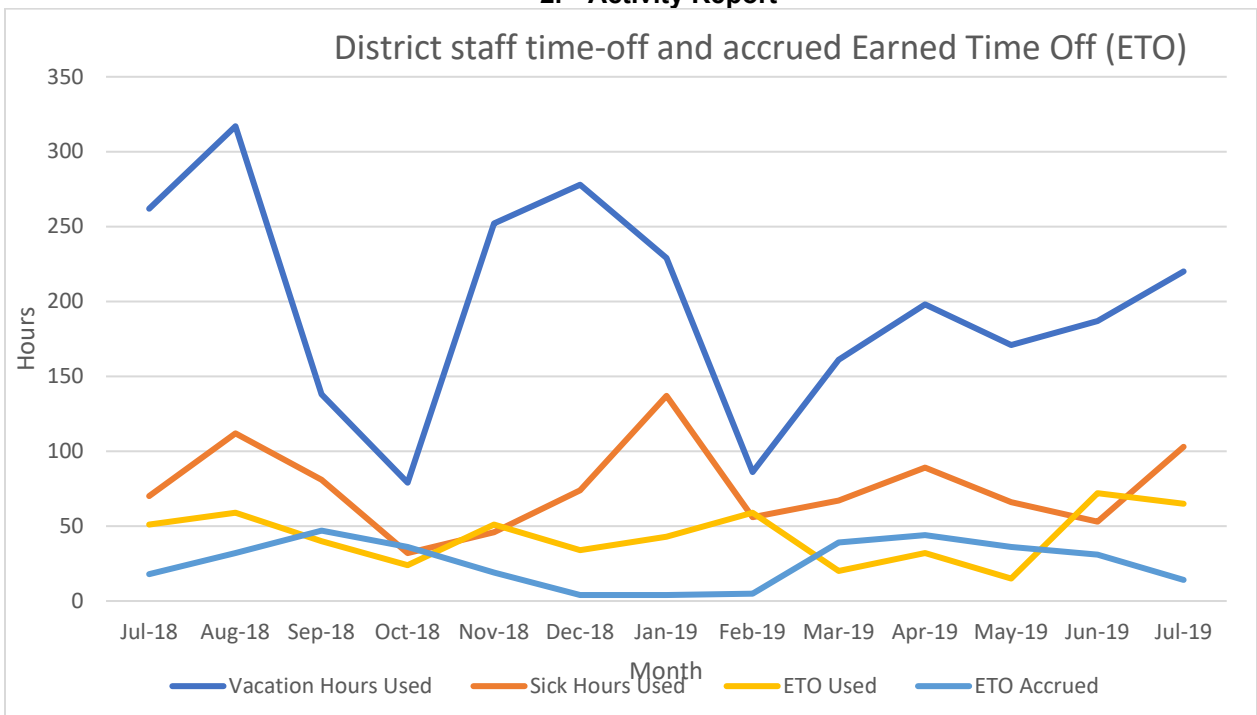
Field Operations Supervisor
Joseph Huston

A. District Data

1. Service Requests

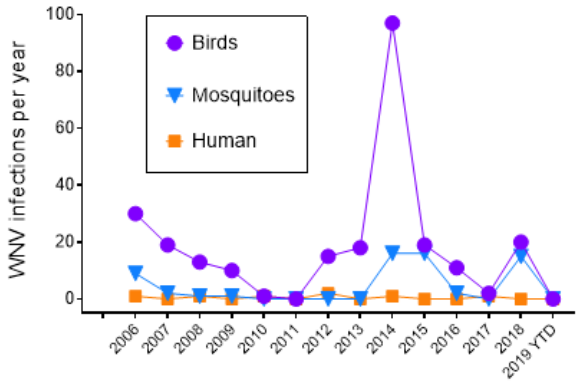


2. Activity Report

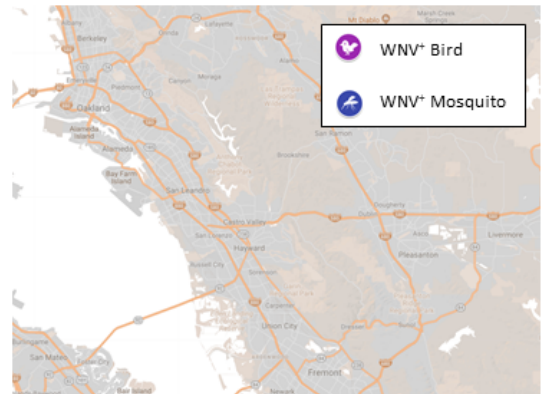


3. WNV Activity

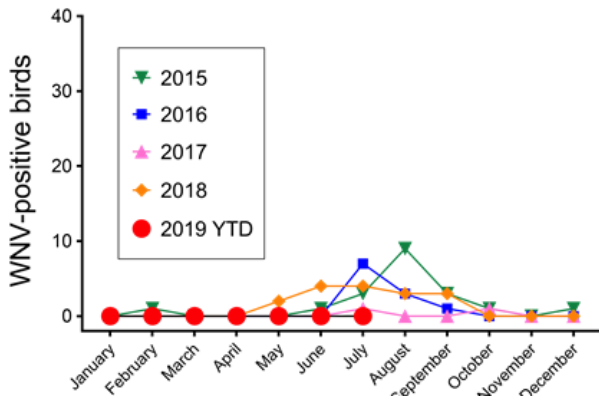
WNV infections detected in Alameda County
2005 – 2019 YTD



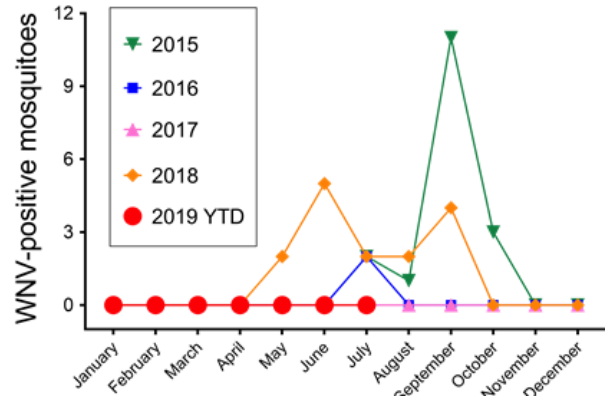
Locations of WNV-infected mosquitoes and birds
collected in Alameda County during 2019



WNV-infected birds collected in
Alameda County



WNV-infected mosquitoes collected in
Alameda County



2. LAB

Summary

- West Nile virus (WNV) was not detected in birds or mosquitoes during the month of July.
- Adult mosquito abundance during July 2019 was lower than the prior year primarily because of reduced *Culex erythrothorax* abundance in the county.
- A total of 20,413 adult mosquitoes were captured and killed by lab traps during the month of July.
- A total of 11 adult *Culex apicalis* were collected in Dublin during July 2019. This species was last detected in the county over a decade ago. It is not known to transmit arboviruses to humans.

Arbovirus Monitoring

- West Nile virus (WNV) was not detected in birds or mosquitoes during the month of July 2019.
- None of the mosquitoes or birds that were collected during 2019 were found to contain Saint Louis encephalitis virus (SLEV) or Western equine encephalitis virus (WEEV).

Native Mosquito Abundance

- For the month of July, there was no rainfall and the average maximum temperature was 71 °F (Hayward, CA). The prior two months had average maximum temperatures of 75 °F and 62 °F.
- Over the course of the month, 337 EVS CO₂ traps were placed; 4,605 mosquitoes were collected and identified to species (Figure 1). There was an average of 13.7 mosquitoes per trap night, a 1.8-fold decrease in the number of mosquitoes per trap night relative to the prior month (n = 10,186 mosquitoes collected during June 2019). *Culex erythrothorax* remained the most abundant species collected in EVS CO₂ traps, followed by *Culex tarsalis*, and *Culex pipiens* (Figure 2). The geospatial distribution of mosquito species collected in EVS CO₂ traps at each trap site in the county is displayed in Figure 3a. Overall, mosquito abundance during July 2019 as measured by EVS CO₂ traps was substantially lower than the prior year (Figure 2; 2019, red line; 2018, blue line), but similar to the same period of 2017 (Figure 1; 2017, yellow line).
- *Anopheles spp.* were more widely distributed in the county relative to prior years, with detections primarily in the eastern region of the county (Figure 3b). However, the number of adult *Anopheles* mosquitoes captured in traps was low (5.8 mosquitoes / trap night for traps that contained *Anopheles* mosquitoes). While *Anopheles franciscanus*, *Anopheles occidentalis* and *Anopheles punctipennis* are possible vectors of malaria, they rarely bite people. *Anopheles freeborni* is the only malaria vector of major concern in the western US, and this species is not highly abundant or widely distributed in Alameda County.
- A total of 11 adult *Culex apicalis* were detected in Dublin during July (Figure 3b), the first adult detection of this species in the county since October 2008. This species is very rare in Alameda County and is not known to transmit arboviruses that infect humans. It is found predominantly in woodland creek habitats and takes blood meals from birds and reptiles.
- Mosquito abundance, as measured using NJLT, was slightly lower than the prior month (Figure 4; 1.06 and 1.23 mosquitoes / trap night, respectively; total of 780 mosquitoes over 735 trap nights). *Culiseta incidens* was the most prevalent species collected in NJLT during July 2019, followed by *Anopheles occidentalis* and *Culex tarsalis* (Figure 5).
- The Mosquito Magnet Traps (MMT) in and around Coyote Hills Regional Park collected 14,813 adult mosquitoes (a 5.9-fold decrease relative to the prior month). Over 98% of the mosquitoes that were collected in these MMT were *Culex erythrothorax*, an effective vector of WNV. Additional MMT were placed at sites with oak tree holes where service requests were made to control *Aedes sierrensis*. A total of 20,413 adult mosquitoes were captured and killed by lab traps during the month of July.

Invasive Aedes Monitoring

- Invasive *Aedes* mosquitoes have not been detected in any mosquito trap placed in Alameda County during 2019.

FIGURES

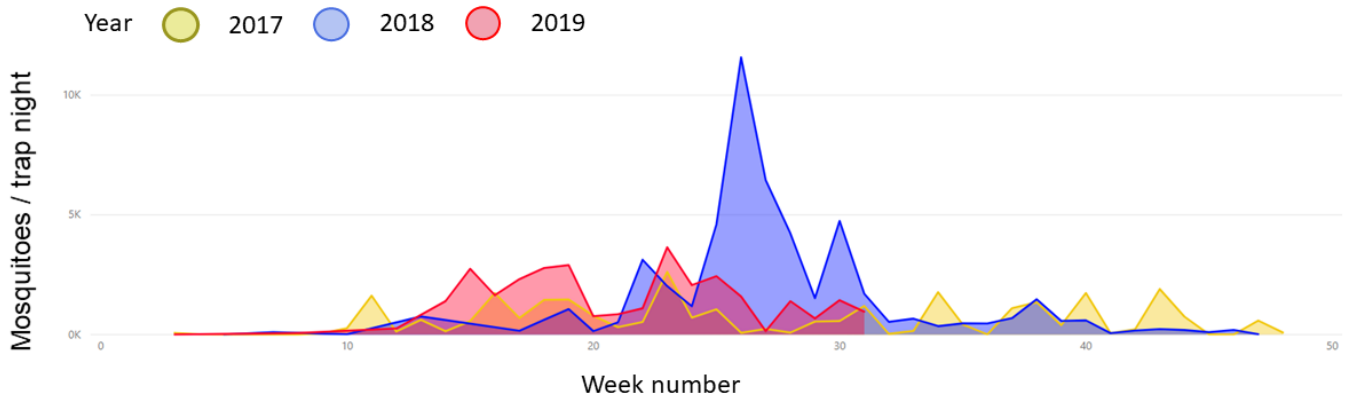


Figure 1. Mosquitoes captured in EVS CO₂ traps from 2017 – 2019. A total of 4,605 mosquitoes were captured in EVS CO₂ traps during June 2019 and identified to species.

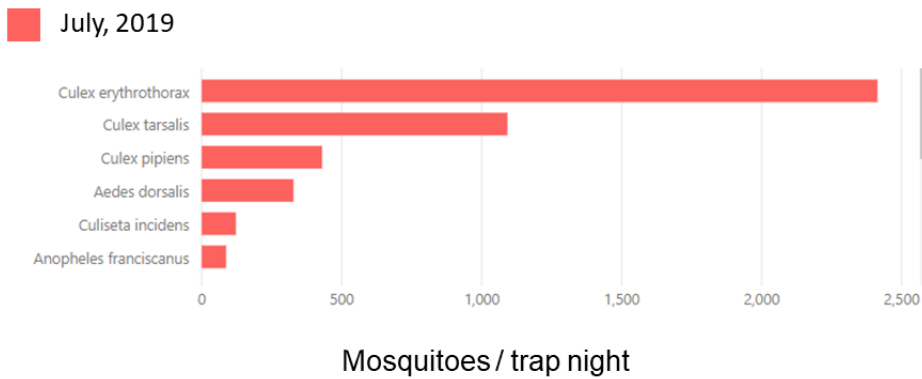
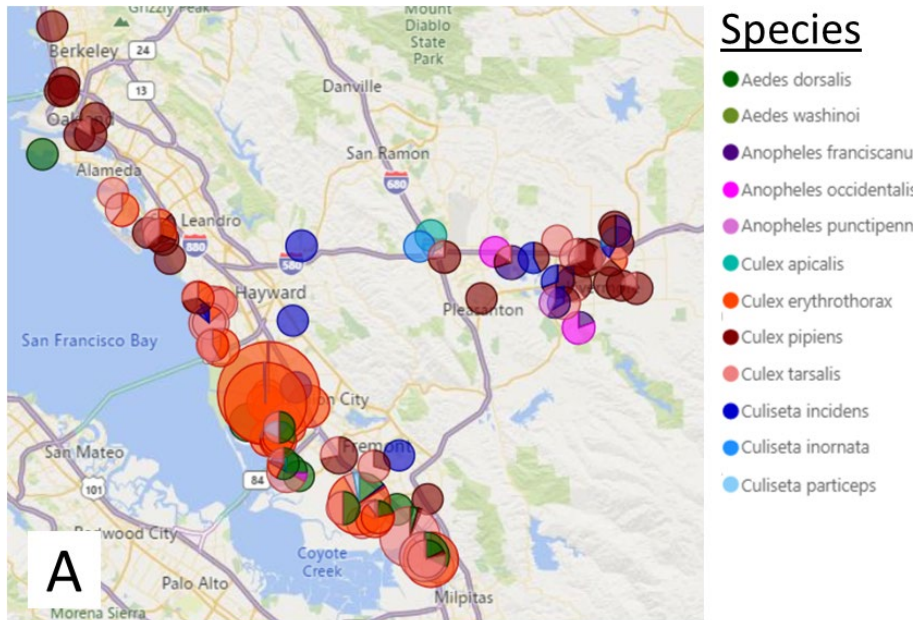


Figure 2. The six-most abundant species of mosquito captured during June 2019 using EVS CO₂ traps.



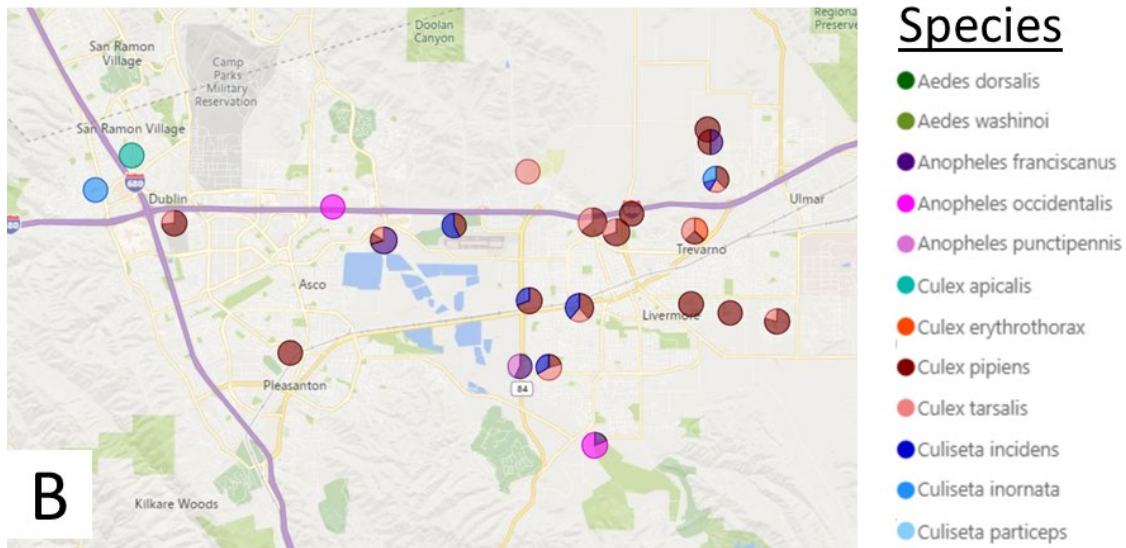


Figure 3. Mosquito abundance by trap site evaluated using EVS CO₂ traps. Pie charts over trap sites indicate the distribution of mosquito species collected at the trap site. The size of the pie charts indicates the relative number of mosquitoes at each site during July 2019. Sites with five or fewer mosquitoes collected in the traps are not shown on the map. (A) Entirety of Alameda County. (B) Eastern Alameda County.

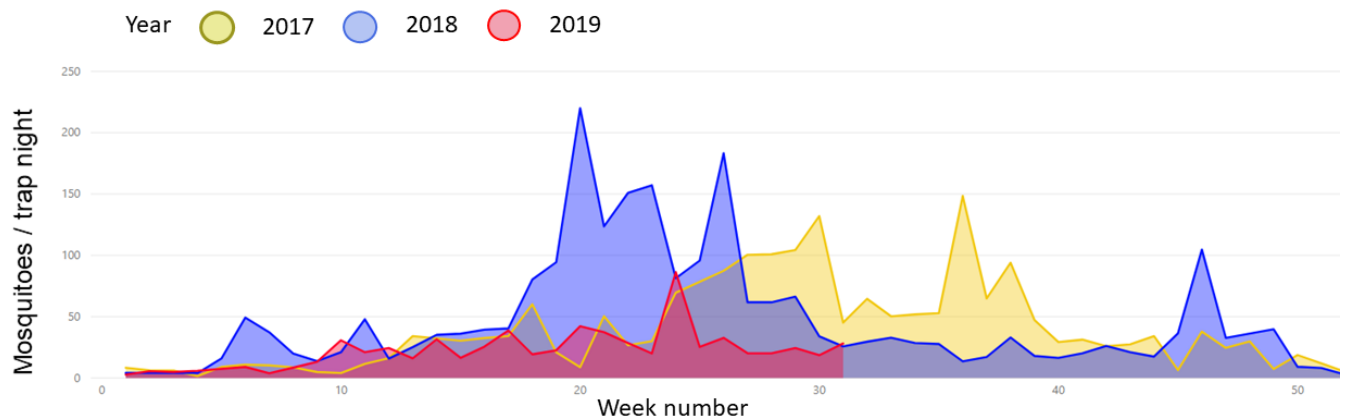


Figure 4. Mosquitoes captured in NJLT from 2017 – 2019. A total of 780 mosquitoes were captured in NJLT during July 2019 and identified to species.

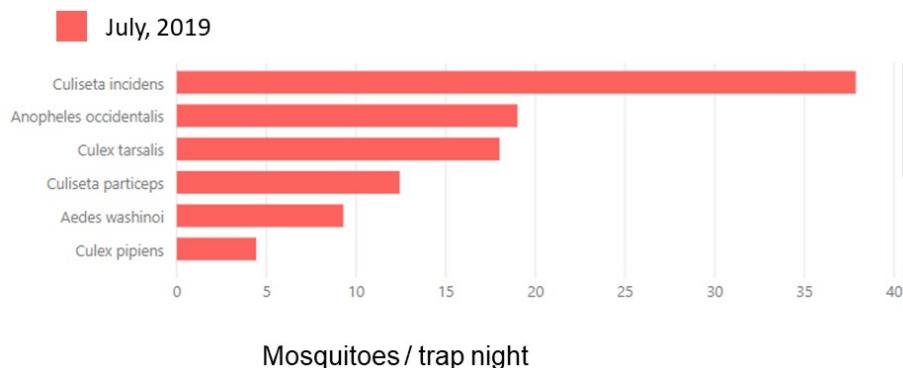


Figure 5. The six-most abundant species of mosquito captured during July 2019 in NJLT.

PUBLIC EDUCATION

A. Events

i. Upcoming

- **Downtown Hayward Street Party** – Thursday, August 15th (Hayward)
- **Festival of India** – Saturday, August 17th -Sunday, August 18th (Fremont)
- **Solano Ave Stroll and Parade** – Sunday, September 8th (Albany/Berkeley)
- **Dublin Splatter Festival** – Saturday, September 14th (Dublin)
- **Newark Days** – Sunday, September 22nd (Newark)
- **Oaktoberfest** – Saturday, September 28th and Sunday, September 29th (Oakland)

ii. Past

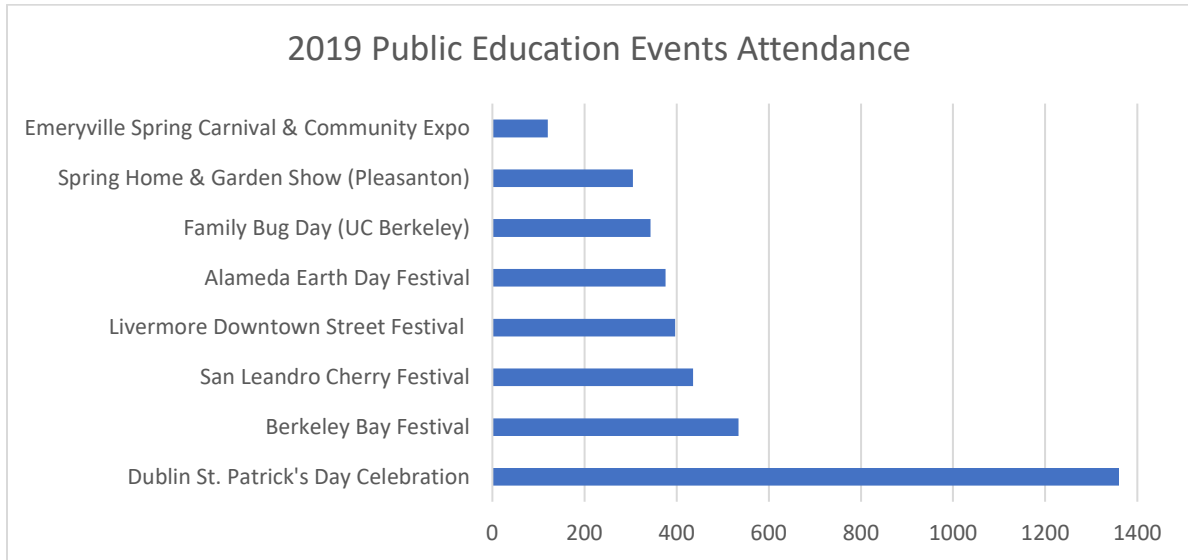


Figure 1. Number of visitors that attended each event

B. Advertisement Campaigns

i. Movie Theater Ads

- Started April 25th and run through July 7th
- Theaters locations: Century 25 Union Landing 25 (Union City), Century Pacific Commons 16 (Fremont), Hacienda Crossings 21 (Dublin), NewPark 12 (Newark)

Audit Summary By Job Report Started: 7/16/2019 11:13:11 AM Report Finished: 7/16/2019 11:16:00 AM				
Job: 478251 RV 441602				
4/25/2019 - 7/7/2019				
Theater #	Theater Name	DMA	Location	# of Plays
347	Hacienda Crossings 21 with IMAX	San Francisco-Oak-San Jose	Lobby	8683
347	Hacienda Crossings 21 with IMAX	San Francisco-Oak-San Jose	Auditorium	6485
AMC0456	NewPark 12	San Francisco-Oak-San Jose	Lobby	7335
AMC0456	NewPark 12	San Francisco-Oak-San Jose	Auditorium	3924
CNK1060	Century Pacific Commons	San Francisco-Oak-San Jose	Lobby	6838
CNK1060	Century Pacific Commons	San Francisco-Oak-San Jose	Auditorium	5716
CNK423	Century 25 Union Landing and XD	San Francisco-Oak-San Jose	Lobby	6424
CNK423	Century 25 Union Landing and XD	San Francisco-Oak-San Jose	Auditorium	7906
Grand Total: Lobby and Auditorium				53311
Total Auditorium ONLY				24,031

Figure 2. Movie theater advertisement results

ii. Internet Ads

- Started June 1st to run through September 30th

 **OnTarget – Display Creative**

Ad Size: 160 x 600

Ad Size: 728 x 90



Ad Size: 300 x 250

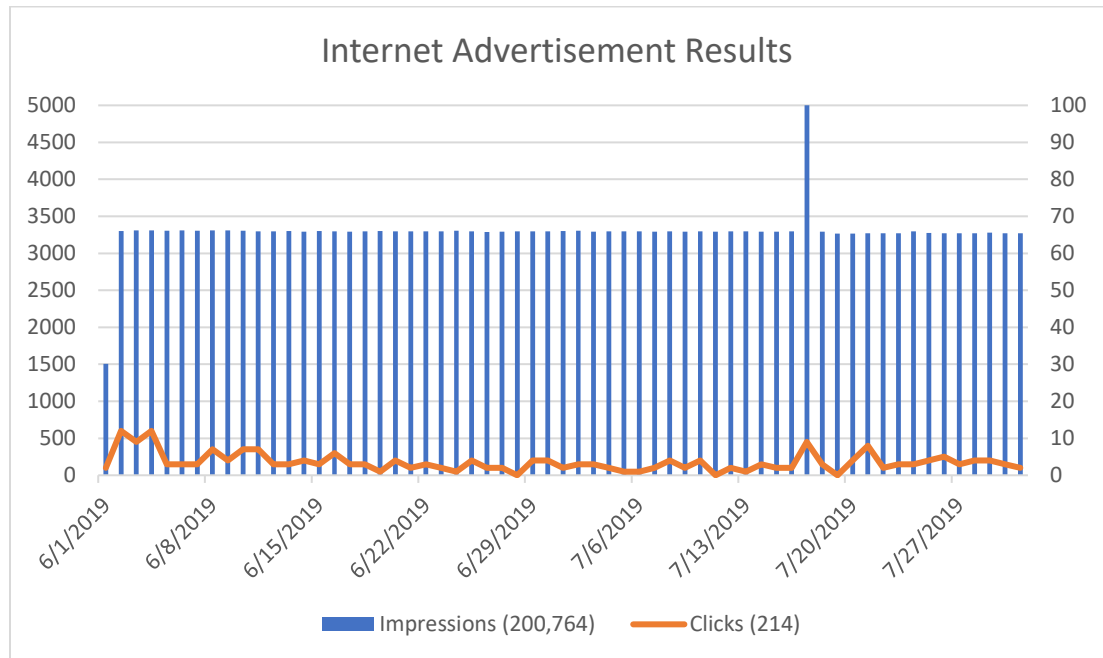


Figure 3. Movie theater advertisement results

C. Google Analytics

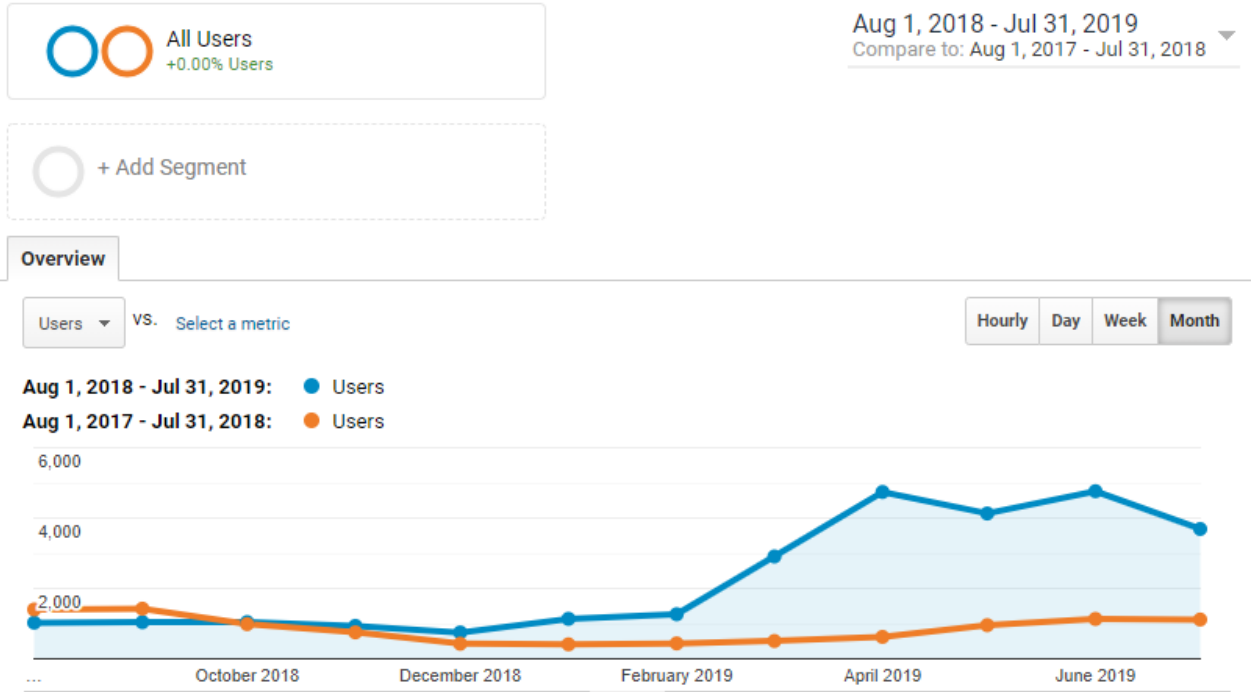


Figure 4. Comparison of website users over the past two years

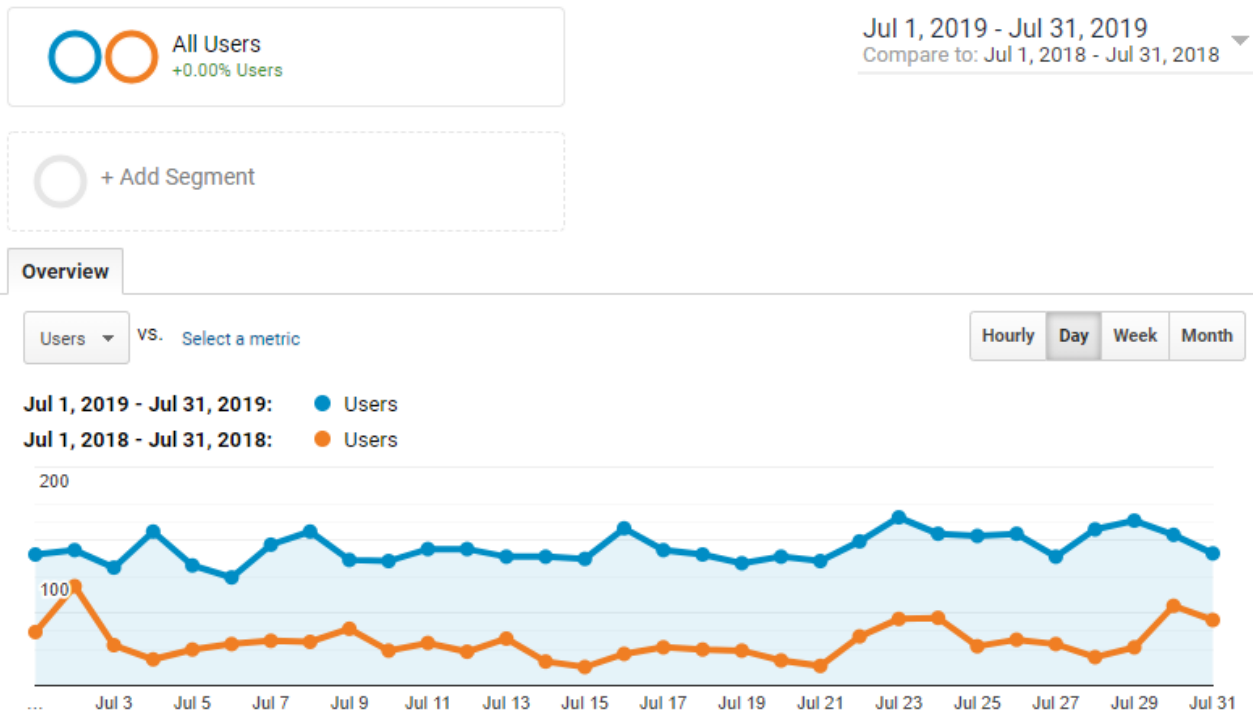
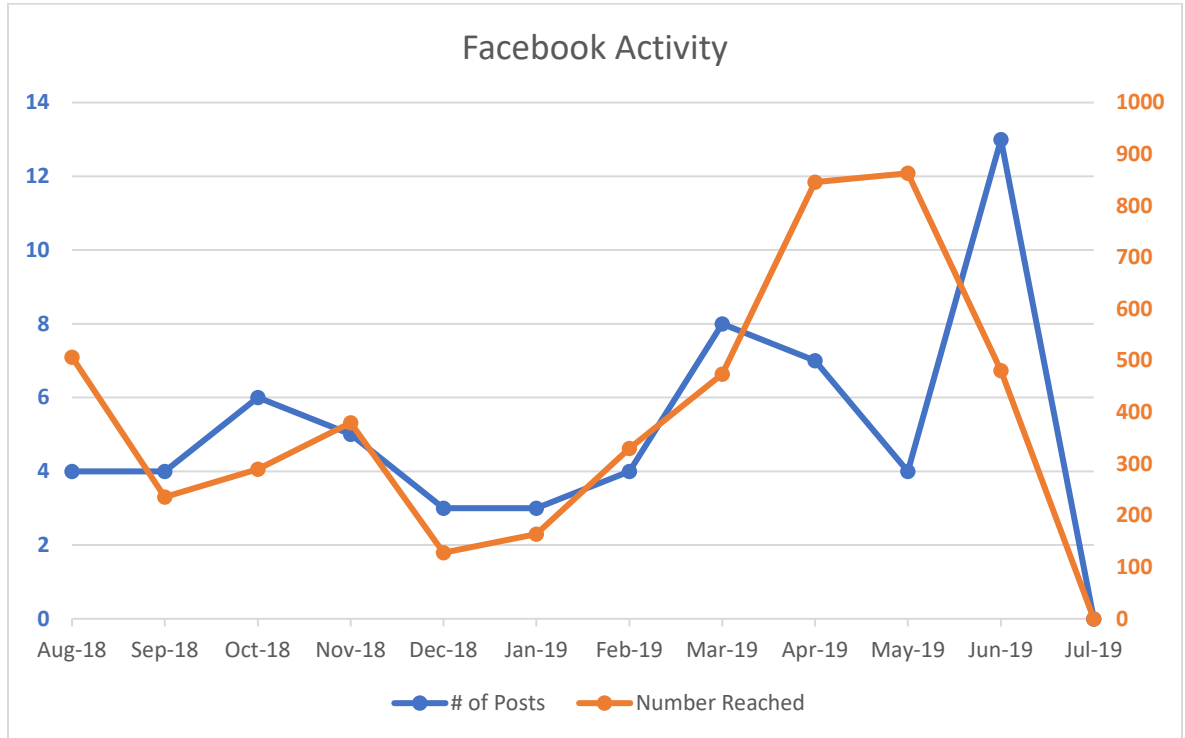


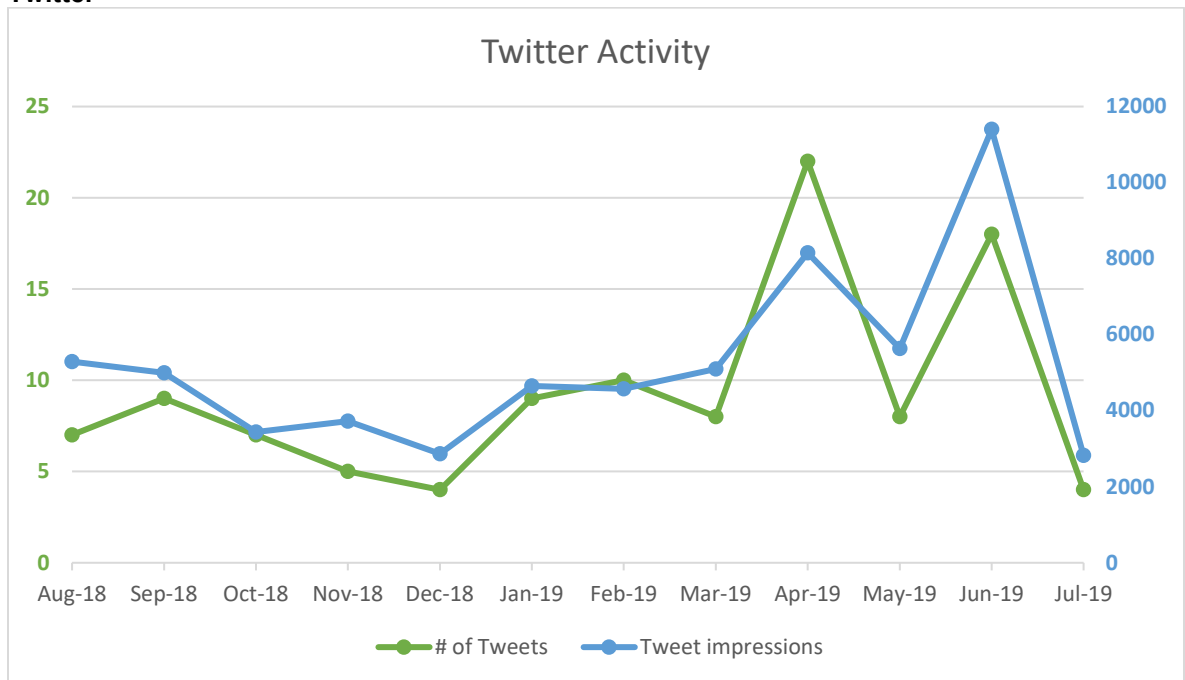
Figure 5. Comparison of website users over the past two years for July.

D. Facebook



Total Number of Followers: 190 Page Likes, 225 Page Followers

E. Twitter

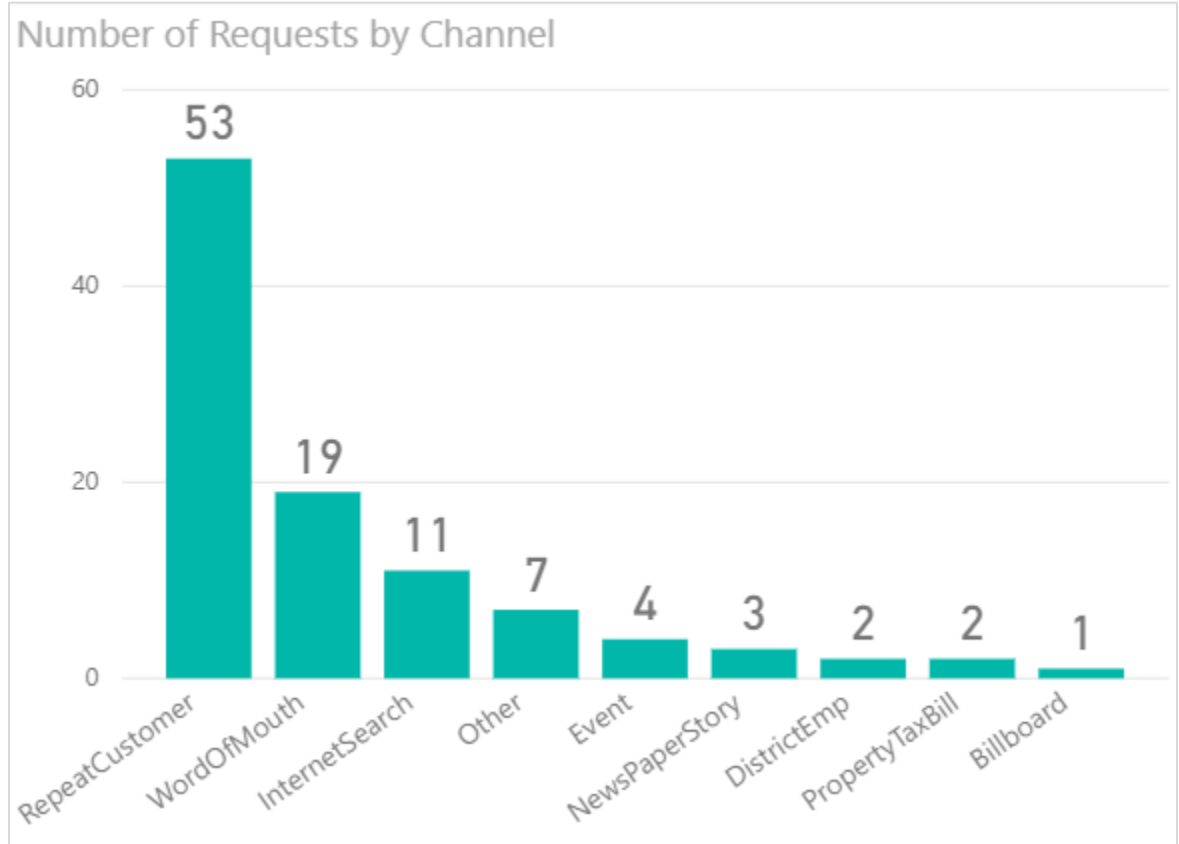


Number of Profile Visits in July: 61

Total Number of Followers (New This Month): 669 (up from 663 in June)

Top July Tweet: Here's a quick update from us. (Newsletter link)

F. Service Request Referral Summary



Note: Social media, movie theater ads, internet ad and phone book are also options for this question but were not included on this chart because they were not selected in July. Those who chose Other indicated they heard about us from the City of Fremont, a Board Member, and email. Three people did not indicate a reason.

4. LEGISLATIVE UPDATE:

	Bill Name and description	Status	ACMAD Position	ACMAD Action
<i>California</i>				
MVCAC	AB 320: This bill would create the California Mosquito Surveillance and Research Program, to be administered by the University of California, and would require the University to maintain an interactive internet website for management and dissemination of data on mosquito-borne virus and surveillance control and coordinate with the department, among other functions.	Passed in the assembly, to be heard in the Senate appropriations committee on August 12 th	Support	Letter of support